HSI SITE NO. 10464, PCE REMEDIATION, VOPAK TERMINAL SAVANNAH

# COMPLIANCE STATUS REPORT

July 29, 2016

Submitted to:

**GEORGIA DEPARTMENT OF NATURAL RESOURCES**

**ENVIRONMENTAL PROTECTION DIVISION**

Response and Remediation Program, Land Protection Branch

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# EXECUTIVE SUMMARY

In 2000, Vopak Terminal Savannah, Inc. (VTSI) acquired Paktank Corporation (Paktank) that maintained a bulk liquid storage terminal on a land parcel in Savannah, Georgia leased from the Georgia Ports Authority (GPA). In 1996, Paktank notified the Georgia Environmental Protection Division (EPD) about a solvent release discovered in one of its tank farms. The release was composed of PCE and its typical degradation products. Paktank attributed the source of the release to tetracholoroethylene also known as percholoroethylene (PCE) that was stored at the terminal in the mid 1970's.

After certain assessment and remedial activities, VTSI endorsed a consent order with EPD in 2003. The consent order required preparation of a proper compliance status report (CSR) to fully address the remaining contaminated soils and groundwater associated with the PCE release. In addition, the consent order required the preparation and implementation of a corrective action plan (CAP) to remediate contaminated soil and groundwater. VTSI submitted a CAP with a projected 20-year cleanup schedule.

Based on subsequent remedial activities by VTSI, EPD notified VTSI in 2006 that the source soil remediation tasks were complete. The groundwater remediation program that involved an enhanced attenuation program was, however, found to be ineffective in reducing the overall extent of the groundwater plume. In 2010, VTSI retained Environmental International Corporation (EIC) to develop a more cost-effective remedial strategy to address the groundwater contamination. EIC proposed an alternative approach under the new Georgia Voluntary Remediation Program (VRP). In a letter dated August 31, 2011, EPD approved a voluntary investigation and remediation plan (VIRP) that presented the alternative approach. The approved VIRP superseded the requirements specified in the original consent order.

Immediately after the VIRP was approved, VTSI implemented the proposed assessment and remedial tasks. In implementing the tasks, EIC successfully completed a proper evaluation of the groundwater plume, demonstrated plume stability, reestablished monitored natural attenuation (MNA) with multiple lines of evidence, and substantially reduced the environmental risks. EIC also utilized a fate and transport model to demonstrate that any potential migration of the residual groundwater contamination will not impact the water quality of the Savannah River. To address the prevailing groundwater contamination, EIC proposed Type 5 risk reduction standards (RRS) as a contingency measure. In a stakeholder meeting, EPD and GPA concurred with VTSI that Type 5 RRS would be acceptable. VTSI also developed institutional controls to manage any potential risks from incidental exposure of groundwater during any site excavation activities within the groundwater plume. This CSR documents the results of the VIRP and petition's EPD to delist the site from the State of Georgia Hazardous Site Response Act (HSRA) Site Inventory.

## COMPLIANCE STATUS REPORT

## CERTIFICATION OF COMPLIANCE 391-3-19-.06(4)(a)

*"I certify under penalty of law that this report and all attachments were prepared under my direction in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Based on my review of the findings of this report with respect to the risk reduction standards of the Rules for Hazardous Site Response, Rule 391- 3-19-.07, I have determined that this site is in compliance with Type 5 risk reduction standards."*

Charles Bradley

Printed Name

General Manager

Title

**Vopak Terminal Savannah Inc.**
280 Brampton Road
Garden City, Georgia 31418
912-964-1811

Signature

8/1/16

Date

## COMPLIANCE STATUS REPORT

## QUALIFIED GROUNDWATER SCIENTIST CERTIFICATION

*"I certify that I am a qualified groundwater scientist who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields as demonstrated by state registration and completion of accredited university courses that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction."*

Basavaraj Mahadevaiah, GA PE No. 23198
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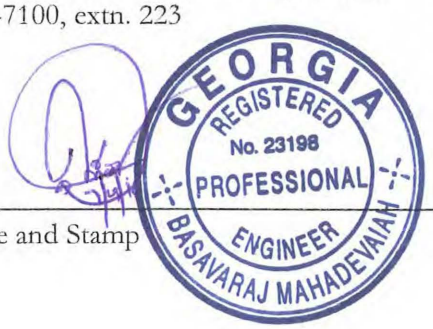
7/29/16
Date




Signature and Stamp

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# LIST OF EXHIBITS

A. Revised VIRP Application (on Enclosed CD)

B. Fourth Quarter 2011 (Baseline) VIRP Report from the First VIRP Semi-annual Progress Report (on Enclosed CD)

C. Fifth VIRP Semi-annual Progress Report (on Enclosed CD)

D. Seventh VIRP Semi-annual Progress Report (on Enclosed CD)

E. Eighth VIRP Semi-annual Progress Report (on Enclosed CD)

F. Ninth VIRP Semi-annual Progress Report (on Enclosed CD)

G. April 2016 Groundwater Monitoring Report

SECTION

1

# 1 INTRODUCTION

Vopak Terminal Savannah, Inc. (VTSI), in Savannah, Georgia is located on land leased from the Georgia Ports Authority (GPA). Prior to the 2000, VTSI was known as Paktank Corporation (Paktank).

The site is subject of a tetrachloroethene or perchloroethene (PCE) release that reportedly occurred while PCE was stored at the terminal in the mid 1970's. Over the years, the PCE has degraded into other dissolved chlorinated volatile organic compounds (CVOCs). The site is currently listed on the State of Georgia Hazardous Site Response Act (HSRA) Hazardous Site Inventory (HSI) as Site Number 10464, Paktank Corporation – Savannah Terminal (now known as VTSI).

In 1996, Paktank discovered a solvent release in the vicinity of Tank 24. Upon discovery, Paktank initiated certain assessment and remedial activities. In July 2003, VTSI endorsed a consent order No. EPD-HSR-384 issued by the Georgia Environmental Protection Division (EPD). The consent order required preparation of a proper compliance status report (CSR) to fully address the remaining contaminated soils and groundwater associated with the PCE release. In addition, the consent order required preparation and implementation of a corrective action plan (CAP) to remediate contaminated soil and groundwater (ERM, 2005). The CAP projected a 20-year cleanup time period.

Between 2001 and 2006, VTSI conducted a soil remediation program to address soil contamination at the source of the release. In a letter dated August 31, 2006, EPD acknowledged that the soil remediation program met Type 3 and 4 risk reduction standards(RRS). After implementing an enhanced attenuation program to address groundwater contamination, however, VTSI realized that the prevailing remedial process had minimal impact in reducing the overall extent of the groundwater plume.

In 2010, VTSI retained EIC to develop a more cost effective remedial strategy. After a thorough review of the site background data, EIC proposed an alternative approach under the new Georgia

Voluntary Remediation Program (VRP). The alternative approach outlined a pathway for conducting remediation in a more effective and timely manner.

On October 15, 2010, VTSI submitted a Revised Voluntary Remediation and Investigation Plan (VIRP) to the Georgia Environmental Protection Division (EPD). Based on comments from the EPD, VTSI submitted a revised VIRP on April 2, 2011. In a letter dated August 31, 2011, EPD approved the revised VIRP (EPD, 2011). The approved VIRP superseded the requirements specified in the original consent order No. EPD-HSR-384 issued by the EPD.

Immediately after the VIRP was approved, VTSI implemented the proposed tasks. In this Compliance Status Report (CSR), VTSI is documenting the results of the VIRP and the remedial progress. A completed checklist of items required in the CSR according to Georgia Administrative Code Rule 391-3-19-.06(3) is included as Attachment A.

## 1.1 SITE LOCATION AND DESCRIPTION

The site is located at Georgia Ports Authority Gate No. 2 on Turner and Hart Streets, with street address 280 Brampton Road, Garden City, Chatham County, Georgia 31418. The site has operated as a bulk storage facility since 1951. Historically, the terminal has stored various fuels and chemicals in various above-ground storage tanks (ASTs). The site is bordered by the GPA Port of Savannah Terminal property except to the eastern boundary where VTSI maintains docking facilities along the Savannah River. Beyond, a relatively narrow strip of GPA property along the southeastern edge of the site, lies an asphalt roofing materials manufacturing facility. Figure 1-1, in Exhibit G, illustrates the site layout. The warranty deed and tax plats of the site are included with Exhibit A, the VIRP (EIC, 2011).

SECTION 2

# 2 SITE CONCEPTUAL MODEL

A Site Conceptual Model (SCM), also known as Conceptual Site Model, is a summary of the site condition relative to a contaminant release. Typically, the model defines site characteristics, release sources, extent of the plume(s), likely fate and transport mechanisms, potential exposure pathways, and potential sensitive receptors that could be impacted. During the implementation of the VIRP, VTSI has refined and updated the SCM originally submitted in the VIRP. The following sections summarize the latest understanding of the SCM discussed in the Eighth Semi-annual Progress Report (EIC, 2015b), which is included as Exhibit E.

## 2.1 HYDROGEOLOGY

The site is underlain by a complex inter-bedded strata consisting of gravel, sand, silt, and clay lithology/soil types, and strata with various combinations of these soils. This results in a complex saturated soil matrix with anisotropic and non-homogeneous conditions as the pathway for groundwater flow. Based on historical gauging data from monitoring wells in the vicinity of the monitored constituents of concern (COC) plumes, the depth to groundwater ranges approximately from 1 to 10 feet below ground surface and groundwater generally flows from southwest to northeast. A full discussion of the site hydrogeology is presented in the SCM Report which is included in Exhibit E (EIC, 2015b).

## 2.2 CONSTITUENTS OF CONCERN

The primary COCs monitored at the site are CVOCs. These specifically consist of PCE and its degradation products trichloroethene (TCE), dichloroethene (DCE), and vinyl chloride (VC). Additionally, VTSI has investigated a historic release of volatile organic compounds (VOC) discovered in the same area of the site. The VOCs consist of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and are comingled with the CVOCs. The delineation standards of these CVOCs and VOCs for groundwater are listed in Table 1-2 in Exhibit A (EIC, 2011).

## 2.3 RELEASE SOURCES

### 2.3.1 PCE Release

Referring to historic data, PCE was stored in Tank 24 during the period from December 1972 through April 1975 (ERM, 2010). In 1996, a PCE release was discovered in the vicinity of Tank 24. Since no PCE has been stored at the site since 1975, the release was attributed to previous terminal operations. Subsequently, the site's previous owners and VTSI have conducted various investigatory and remedial activities, per the EPD, including source removal. Due to natural attenuation, as noted in Section 2.2, the PCE has degraded into TCE, DCE, and VC.

### 2.3.2 Hydrocarbon Release

Based on the data presented in the CAP and from subsequent sampling events, it is apparent that BTEX constituents have been consistently detected in certain monitoring wells at the site where CVOCs are located (EIC, 2011). However, no documentation is available about the source of the BTEX.

## 2.4 Extent of Contamination

### 2.4.1 Soil Delineation

As documented in the VIRP, CVOC-contaminated soil in the vadose zone was delineated and remediated during the period from 2001 to 2006. A review of the analytical results from this activity indicated that BTEX contamination in the vadose zone was also delineated and remediated to CAP RRS. In a letter dated August 31, 2006, EPD concluded that soil at the site has met the established RRS (EPD, 2006).

### 2.4.2 Groundwater Delineation

During the implementation of the VIRP program, VTSI has delineated the extent of groundwater contamination. This effort required several improvements to the monitoring well network and collection of full round of groundwater samples during several sampling events. Explicit details of these activities were discussed in the corresponding semi-annual progress report and are summarized in Section 4 of this CSR. Table 3-4 in Exhibit G tabulates the historical groundwater analytical data for each well.

### 2.4.2.1 Horizontal Delineation

Chlorinated Volatile Organic Compounds

The horizontal extent of the dissolved CVOC plumes, during the baseline VIRP sampling event in October 2011, are illustrated in Figures 4 through 7 in Exhibit B. Following this event, VTSI installed 3 additional wells to provide additional data points for completing the delineation of COC plumes and to replace an un-located well. The CVOC plumes were further defined during the January 2014 sampling event, the first sampling event after the installation of 3 additional wells, as illustrated in Figures 4-7, 4-9, 4-11, and 4-13 in Exhibit C. Two of these wells served as downgradient sentinel wells enabling downgradient delineation of the CVOC plume. Following this event, one former injection well and one previously un-located well were both added to the sampled monitoring well network. As illustrated in Figures 3-3 through 3-6 in Exhibit G, from final VIRP sampling event in April 2016, samples collected from the improved monitoring well network, further defined the horizontal extent of the dissolved CVOCs. In reviewing the above CVOC plume maps, it is apparent that the CVOC plume has decreased in both concentration and extent during the VIRP program.

BTEX

The horizontal extent of the dissolved BTEX -from the baseline VIRP sampling event in October 2011 - is illustrated in Figures 8 through 11 in Exhibit B. Downgradient delineation of the BTEX plume has been complete since the initiation of the VIRP. Similar to the CVOC plume, the understanding of the BTEX plumes concentrations and extent were more accurately delineated with the expansion of the monitoring well network. Figures 4-15, 4-17, 4-19, and 4-21 in Exhibit C illustrate the extents of the BTEX plumes during January 2014, the first sampling event after the installation of 3 additional monitoring wells. Figures 3-7 through 3-10 in Exhibit G illustrate the horizontal extent of the BTEX plumes during the final VIRP sampling event in April 2016. In reviewing these figures, it is apparent that the BTEX plume has decreased in both concentration and extent during the VIRP program.

### 2.4.2.2 Vertical Delineation

The historical groundwater sampling results from the deep well MW-14 located within the original COCs footprint are tabulated in Table 3-4 in Exhibit G. Referring to the analytical data in the table, it is apparent that all monitored COCs concentrations in the well have remained below delineation standards since October 2013. Also, the concentrations of all but one parameter were below method detection limits - MDLs. In the EPD's comment letter to VTSI, dated April 3, 2014, the EPD concurred with VTSI that vertical delineation is complete (EPD, 2014).

## 2.5 FATE & TRANSPORT

The main purpose of determining potential exposure pathways is to assess the migration potential of the released COCs in a multimedia setting. Based on such an assessment, it is possible to establish potential exposure levels, critical in establishing risk-based screening and cleanup goals.

It would be expected that the released COCs at the site are subject to the following mechanisms:

- Physical phase separation of released liquid product into gas and other states of matter due to sorption, solubility and other equilibrium reactions.
- Dissolution of all or a portion of the product solute into the groundwater solvent. The portion of the product not dissolved is immiscible liquid.
- Advection referring to bulk movement of dissolved constituents and immiscible liquid.
- Dispersion involving horizontal and vertical spreading of partitioned constituents.
- Diffusion of the dissolved constituent in groundwater - consisting of spreading from concentration gradients.
- Biodegradation by native microorganisms of the dissolved constituent along the migration pathway.
- Other attenuation processes that reduce the dissolved concentrations with time and distance.

Due to multiple site factors, including: hydrogeology, variable co-metabolic degradation conditions, various engineered surface coverings and subsurface structures, and influence on groundwater by the Savannah River, accurate modeling of these mechanisms is not feasible. However, simplified estimations can be made from known and assumed conditions. A model based on these assumptions is detailed in the Ninth Semi-annual report (EIC, 2016), which is included as Exhibit F, and a summary is presented in Section 4 of this report.

## 2.6 MIGRATION PATHWAYS

### 2.6.1 CVOC Migration Potential

Typically, contaminants dissolved in groundwater tend to move in the direction of groundwater flow. Consequently, the location of the peak plume of the monitored dissolved concentrations of each monitored COC is expected to be subject to a migration consistent with seepage velocity. However, various interactions between contaminants, lithology, and groundwater can limit this

migration. Referring to the COC plume maps, it is apparent that the horizontal extent of all CVOCs have decreased since the October 2011 baseline sampling event and are confined within the baseline PCE foot-print.

### 2.6.2 VOC Migration Potential

The monitored COCs consisting of BTEX constituents are present within the CVOC plume footprint. The BTEX plume has also decreased over time and remains stable within the original PCE foot-print.

## 2.7 POTENTIAL RECEPTORS

Potential receptors are the most important drivers in establishing risk-based cleanup goals for the site. The receptors include human, ecological, natural resources, present and future land use, and down-gradient receptors.

### 2.7.1 Human Health Receptors

Since all contaminated soil that exceeded the RRS under the 2005 CAP within the vadose zone was previously excavated, as discussed in Section 3.1, subsurface soil lying above the water table is neither a concern to VTSI employees nor to construction workers at the site. Consequently, only groundwater contamination or saturated soils present potential human exposure at the site.

The 2005 CAP also states, "Because the site and surrounding area are served by a municipal water supply system, groundwater from the surficial aquifer at the site and within the vicinity of the site is not being used for human consumption. VTSI will also ensure that any construction works conducted within the area over contaminated groundwater will be limited to the extent of the vadose zone. Therefore, human exposure to contaminated ground water is an unlikely exposure pathway" (ERM, 2005). The CAP also states that there are no private drinking water wells within a two-mile radius of the VTSI site.

Nevertheless, if onsite workers need to excavate soils saturated with groundwater or groundwater during construction activities within the COC foot-print, VTSI will utilize institutional controls to monitor and protect workers. The institutional controls are described in more detail in Section 5.3.1.

### 2.7.2 Ecological Receptors

Referring to the 2005 CAP, the VTSI Savannah site was reviewed by the Georgia Natural Heritage Program (GNHP) to identify potential ecological receptors that may be impacted from contamination levels at VTSI. GNHP found no rare, imperiled, and critically imperiled plant and animal species at the site. Since the subject property is operated as an industrial facility, VTSI does not provide habitat for plants or animals. In addition, wetlands are not of concern at the VTSI site. According to the 2005 CAP, "With the exception of drainage ditches and other man-made depressions, no wetland-like areas were observed on the site." Therefore, no ecological receptors are affected by the COCs.

### 2.7.3 Present and Future Land Use

The subject property is currently utilized as a non-residential facility in a heavily industrialized setting. As stated in the introductory section, VTSI leased the property from GPA on a long-term lease. As such, the property will remain as a terminal for several decades. Upon lease expiration, the site property will continue to be utilized as a non-residential facility consistent with GPA's long-term plans for site redevelopment, local zoning, and deed restrictions.

### 2.7.4 Down-gradient Receptors

The GPA Port of Savannah container storage facility is located hydraulically down-gradient of the subject property. Groundwater samples collected from sentinel wells MW-35 and MW-36, located on GPA property and hydraulically down-gradient of the subject property indicates that COCs are well below delineation standards. Also, mixing zone calculations (discussed in Section 4.6) indicate no potential impact to the water quality standards in Savannah River.

SECTION 3

# 3 PREVIOUS REMEDIAL ACTION

In 2003, VTSI entered into a consent order with EPD to address soil and groundwater remediation. In 2005, EPD approved a CAP which included two important action items. The first action entailed prompt removal of the remaining source area, consisting of contaminated soil, to RRS standards. The second action entailed implementation of a groundwater remediation program to address dissolved CVOCs that were above RRS. The following sections summarize the soil and groundwater corrective actions.

## 3.1 Soil Remediation

From 2003 to 2006 soil removal and confirmatory sampling was completed with regards to source COCs at the site. In a letter dated August 31, 2006, EPD concluded that soil at the site met the RRS established under the CAP (EPD, 2006). Therefore, soil remediation of both CVOC and BTEX concentrations was completed prior to the initiation of the VIRP in 2011.

## 3.2 Groundwater Remediation

The CAP established a 20-year schedule to remediate the groundwater contaminated with CVOCs (ERM, 2010). The groundwater remediation entailed enhanced bioremediation with natural attenuation. In May of 2006, VTSI initiated the groundwater remediation program which included semi-annual injection of sodium, ethyl lactate, soybean oil, and pH buffer into 18 injection wells. The purpose of the injection program was to enhance reductive dechlorination of PCE. The injections were performed under an Underground Injection Control (UIC) Permit R-262, dated April 18, 2006, that expired on April 18, 2011 (ERM, 2010).

### 3.2.1 Performance of the Enhanced Bioremediation Program

The 2010 annual CAP report (ERM, 2010) presents the results of the enhanced natural attenuation program. During the attenuation program, groundwater samples were collected from monitoring wells located within and outside the plume boundary. Analytical results from the samples are tabulated in Table 3-4 in Exhibit G. As discussed in the VIRP, VTSI determined that the use of injection events to enhance bioremediation in groundwater at the site was not effective. As such, this approach was abandoned at the onset of the VIRP. In addition, upon an independent evaluation of the analytical results, VTSI determined that the enhanced natural attenuation program may have inhibited the natural attenuation potential of the CVOCs in groundwater.

SECTION

4

# 4 VIRP IMPLEMENTATION

Upon EPD's approval of the VIRP, VTSI terminated the enhanced attenuation program specified in the previous CAP and initiated the VIRP tasks to address the legacy groundwater contamination in a practical, cost effective manner. The following subsections describe the VIRP remedial strategy and executed actions.

## 4.1 REMEDIAL STRATEGY

A review of historical, groundwater monitoring data indicates that natural attenuation of COCs was occurring prior to the initiation of chemical injection events under the former CAP. Additionally, the prevailing COC plumes appeared to be stable and contained within the site. In implementing the VIRP strategy, VTSI properly delineated the extent of the plume and implemented a monitored natural attenuation (MNA) process to address the legacy groundwater contamination at the site

This strategy involved implementation of the following specific tasks:

- Termination of the injection program to allow the reestablishment of natural attenuation processes of the COCs.
- Evaluation and rehabilitation of the existing monitoring well network for proper delineation and consistent sampling of all wells.
- Development of new site-specific Risk Reduction Standards (RRS) for all COCs.
- Routine groundwater monitoring to evaluate plume attenuation, delineation and stability.
- Monitoring and evaluation of MNA indicator parameters.
- Development of a fate and transport model to evaluate the effectiveness of MNA and compliance with RRS.
- Contingency planning if MNA was discovered to be unsustainable in meeting RRS within the specified time frame of the VIRP.

## 4.2 MONITORING WELL NETWORK

As chronicled in the VIRP and in subsequent semi-annual progress reports, VTSI evaluated the conditions of the monitoring well network and their adequacy in properly defining the COC plumes. Based on the evaluation it was clear that some wells were deemed missing and others were either plugged or improperly abandoned. The historical monitoring data indicates that some of these wells were not available in previous sampling rounds for sample analysis. Consequently, VTSI found that historical data was inadequate in properly defining the extent of the COCs. Consequently, VTSI performed the following activities.

VTSI was able to survey the site to identify missing wells and properly abandoned wells that were no longer useful for monitoring due to downhole obstructions or silting. The extent of the monitoring well network at the beginning of the VIRP relative to the monitoring well network at the end of the VIRP program are illustrated in Figure 1 in Exhibit B and Figure 1-1 in Exhibit G, respectively. Well construction details for all wells utilized in the VIRP well network are included in Table 4-1.

The following sections detail the well network evaluation and improvements.

### 4.2.1 Identified Missing Wells

Wells MW-14 and MW-28, that were previously were reported missing, were located in October 2013 and October 2014, respectively. Subsequently, these wells were incorporated into the monitoring well network.

### 4.2.2 Abandoned Wells

Several wells that were either damaged, silted, lying in the path of new construction, or deemed unnecessary, were abandoned. Of those deemed unnecessary, two wells, which had been paved over, were located utilizing a licensed land surveyor (EIC 2014a). Abandonment procedures followed SESDGUID-101-R1 (EPA, 2013) and are detailed in the VIRP semi-annual progress reports (EIC 2012a, EIC 2014a, 2015a)

### 4.2.3 Installed New Wells

VTSI installed three new monitoring wells prior to the initiation of VIRP sampling in order to replace un-located or damaged wells (EIC, 2011). Three additional wells were installed in December 2013 for further delineation of the COC plume in areas that lacked adequate monitoring wells (EIC 2014a). Each of these wells was designed and installed per SESDGUID-101-R1 (EPA, 2013).

## 4.3 DEVELOPMENT OF RRS

In conformance with Georgia EPD Rule 391-3-19, VTSI updated Type 4 RRS values for the site from the 2005 CAP RRS values for the COCs utilizing EPA's Risk Assessment Guidance for Superfund (RAGS) equations 1 and 2. These RRS values were included in Table 4-1 in Exhibit A, the VIRP (EIC, 2011).

## 4.4 GROUNDWATER MONITORING PROGRAM

### 4.4.1 Groundwater Monitoring Objectives

The primary objectives of the VIRP groundwater monitoring program were to properly evaluate the plume, determine the plume stability, and monitoring the MNA remedial efficiency. These objectives were accomplished using data from routine groundwater monitoring events. The monitoring events were initially conducted on a quarterly basis and subsequently on a semi-annual basis. A total of 14 groundwater monitoring events and results are documented in the nine VIRP semi-annual progress reports (EIC, 2011 through EIC, 2015b). Since the final VIRP groundwater monitoring event was conducted in April 2016, the description of this event and the associated analytical results are detailed in Exhibit G.

### 4.4.2 Groundwater Sampling Protocol

Each groundwater monitoring/sampling event was conducted in accordance with the current U.S. Region 4 EPA groundwater sampling procedure "Field Branches Quality System and Technical Procedures" (FBQSTP) per EPD regulations. Each monitoring well was gauged, purged, and sampled following the "low-flow" purge and "soda straw" sampling techniques established in the current standard operating procedure (SOP) SESDPROC-301 under the FBQSTP (EPA, 2013).

### 4.4.3 Quality Control and Sample Custody

For each sampling event, VTSI stored all samples in insulated thermal containers ("coolers") with double-bagged ice, from the time samples were collected until they were relinquished to the laboratory. Trip blanks accompanied each cooler and were analyzed for indications of cross-contamination during transport. To prevent cross contamination, all sampling equipment was decontaminated following the current FBQSTP SOP SESDPROC-205 (EPA, 2015). Completed chain of custody forms accompanied each set of samples from collection until they were relinquished to the laboratory.

### 4.4.4 Laboratory Analysis

VTSI utilized a Georgia-certified laboratory perform all laboratory analyses of groundwater samples. Samples collected for VOC analysis were analyzed utilizing EPA Method 8260B. Groundwater samples collected for analysis of MNA indicator parameters were analyzed utilizing the respective analytical methods as discussed in Exhibit D, the Seventh VIRP Semiannual Monitoring Report (EIC, 2015a).

### 4.4.5 Groundwater Monitoring Results

#### 4.4.5.1 Groundwater Potentiometric Surface

Following each sampling event, VTSI computed groundwater elevations from gauging data to create groundwater potentiometric surface maps. Figure 3-1 in Exhibit G illustrates the groundwater potentiometric surface in April 2016. Table 3-5 in Exhibit G tabulates all groundwater elevation data collected during the implementation of the VIRP. In general, the data has consistently indicated a groundwater flow direction - in the vicinity of the COC plumes - from southwest to northeast.

#### 4.4.5.2 COC Sampling Results

Table 3-4 in Exhibit G tabulates the analytical results from each VIRP groundwater sampling event. From these results, VTSI prepared plume maps for each COC following each sampling event. For comparative purposes, only the plume maps from the October 2011, January 2014, and April 2016 sampling events are included in this CSR as Exhibits B, C, and G, respectively. These plume maps represent baseline, mid-point (after establishing monitoring well network), and final site conditions during the VIRP program. All other plume maps are included in the respective VIRP semi-annual progress reports submitted to the EPD.

### 4.4.6 Groundwater COC Evaluation

The baseline COC plumes of October 2011 representing site conditions at the initiation of the VIRP are shown in Exhibit B. Background groundwater concentration for each COC was determined to be zero during this event due to analytical results that were below detection limit for all COCs at several sentinel wells. After additional wells were progressively added to the network, as discussed in Section 4.2, new higher concentrations of COC were detected within the original COC foot-print - increasing the peak concentrations and the horizontal extent of several COCs. This is apparent from the figure included in Exhibit C, which illustrates plume conditions from the January 2014 monitoring event. Plume maps in Exhibit G illustrate the COC conditions that was defined from the final VIRP sampling event in April 2016.

In sequentially reviewing the COC plume maps, it first leads one to believe that both the horizontal extent and peak concentrations increased during the first half of the VIRP program. It is important recognize, however, the increase can be attributed to sampling data from new or missing wells that enabled a better definition of the original COC foot-print.

## 4.5 MNA PERFORMANCE

Even with the additional data points, it is apparent that the monitoring data indicates consistent reduction in the overall extent of the plume and plume stability during the VIRP program. Notably, COC concentrations wells MW-32 and MW-33 in the leading edge have reduced significantly, while COCs at a relatively small number of wells within the original foot-print remain recalcitrant. These wells include wells MW-29, LAW-PZ-8R, and IW-1R, which are located at the center of the COC plumes. It is also apparent from these figures that the COC plumes are fully delineated side- and down-gradient and have remained stable.

### 4.5.1 Multiple Lines of Evidence

During the implementation of the VIRP, multiple lines of evidence demonstrated the effectiveness of the MNA approach. This evidence was derived from spatial and temporal analyses of data obtained from both downhole monitoring and direct sampling events. The Fifth Semi-annual Report (EIC, 2014a) documents the results of the downhole MNA indicator parameter study. In a comment letter dated April 3, 2014, EPD concurred that the conditions reported by this study indicate that the COCs were conducive to natural attenuation (EPD, 2014).

As described in Exhibit D, the Seventh Semi-annual Progress Report (EIC, 2015a), samples were collected from select wells to measure MNA indicator parameters via laboratory analysis. The results of this sampling were presented alongside data collected by a multi-parameter water quality meter during routine groundwater sampling prior to and throughout the VIRP program. In a comment letter dated July 29, 2015, EPD concurred that these parameters confirmed that the subsurface environment was conducive to natural attenuation.

### 4.5.2 Statistical Evaluation

As discussed in the SCM (EIC, 2015b), spatial and temporal analysis have shown that contaminant plumes are stable and shrinking. Additionally, statistical trend analysis using the Mann-Kendall Method at several wells has shown a general decrease or stability of select COC concentrations. These concentration reductions support the original VIRP objective of reaching end points under the MNA approach. However, VTSI realized that additional time was required to reach Type 4 RRS standards due to recalcitrant concentrations in certain wells and from additional COC concentrations discovered after the addition of missing and new monitoring wells within the COC foot-print. As such, VTSI utilized a fate and transport model to consider contingency solutions.

### 4.5.3 Spatial and Temporal Evaluation

A spatial and temporal evaluation of sequential COC plume maps included in the semi-annual reports, clearly illustrate the effectiveness of the MNA reestablished during the VIRP implementation period. In addition, EIC utilized historical analytical data to compare the rate of PCE (source material) attenuation that took place pre-VIRP relative to the attenuation that was accomplished upon implementation of the VIRP. Figure 4-1 illustrates the comparative rate of PCE plume reduction in area weighted by the respective scale of plume concentrations. Referring to this figure, it is apparent that the overall reduction in PCE plume size during the VIRP was nearly 20% per year whereas the reduction prior to VIRP (under the old CAP) was less than 2%. This demonstrates that the VIRP successfully established the MNA.

## 4.6 FATE AND TRANSPORT MODEL

VTSI evaluated several two and three dimensional analytical models for the site. However, considering the heterogeneity and substructures that would lead to a complex fluid flow hydrodynamics, a more practical approach was essential to address potential impact of contaminated groundwater flow on downgradient receptors.

Clearly, the primary downgradient receptor would be the Savannah River which is subject to the Georgia Instream Water Quality Standard (EPD, 2013). As such, VTSI utilized a groundwater-to-river mixing model to determine the impact of groundwater contamination at the site on the Savannah River (River). This model utilizes groundwater flow, groundwater COC concentrations, and river flow rates to estimate the maximum potential COC concentrations in the Savannah River downstream of the site. The model evaluated several groundwater COC concentration scenarios to compute the resultant concentrations in the river water to national and state level regulatory limits. The following subsections discuss the general approach to the mixing model. A more in-depth discussion of the model inputs, calculations, and results is included in Exhibit F, the Ninth VIRP Semi-annual Progress Report (EIC, 2016).

### 4.6.1 Model Setup

Utilizing the aquifer parameters collected at the site (hydraulic conductivity, hydraulic gradient, etc.), VTSI developed a groundwater-to-river mixing model based on the Dupuit Equation for estimating steady flow through an unconfined aquifer (EIC, 2016). For the model inputs, VTSI assumed the following: the entire mass of groundwater leaving the site is uniformly contaminated, groundwater enters the River along the entire length of the site, and groundwater completely mixes with surface water in the River.

In estimating the resulting downstream river concentrations, VTSI utilized three sets of COC concentrations ranging from current site conditions (i.e. at the leading edge) to a worst-case scenario

(i.e. maximum concentration ever recorded at the site) to compute varying degrees of potential downstream concentrations. These are presented in the Ninth VIRP Semi-annual Progress Report (EIC, 2016) presented as Exhibit F.

### 4.6.2 Results

The results the model calculations were compared with the state and national regulatory levels for each COC. The regulatory levels considered for this evaluation are the Georgia Instream Water Quality Standard (EPD, 2013) and the National Primary Drinking Water Standard (EPA, 2009).

These modeled downstream River concentrations are several orders of magnitude lower than the state or federal regulatory standards. As such, it is apparent that the potential impact from groundwater discharge from the site into the River would be negligible. Considering that this is a conservative worst-case scenario, potential COC migration to the River from this site would not result in downstream River concentrations in excess of either federal or state surface water quality standards.

## 4.7 VAPOR INTRUSION POTENTIAL

As noted in Section 3.1, CVOC-contaminated soil in the vadose zone was previously delineated and remediated and EPD has concluded that soil at the site has met the established RRS (EPD, 2006). In addition, the residual COC concentrations in the groundwater are substantially low to present a vapor risk. In reviewing the extent of the COC plume, it is also apparent that no enclosed structures are present within the COC foot-print. Consequently, the only potential vapor risk would be incidental contact of contaminated groundwater to construction workers. VTSI will manage these risks with institutional controls as described in Section 5.3.1.

SECTION 5

# 5 REMEDIAL COMPLIANCE

Based on the site monitoring data, it is clear that VTSI successfully reestablished the MNA process during the implementation of the VIRP. As discussed in Sections 4.5, the COC plume is well contained and is attenuating at a reasonable reduction rate. Additional time is, however, required for the residual COCs to reach Type 4 RRS levels. Consequently, VTSI initiated contingency planning process outlined in the VIRP to evaluate an alternative remedial strategy for the residual COCs. One of the alternatives involve consideration of Type 5 RRS standards as a remedy.

## 5.1 TYPE 5 RRS

As discussed in the aforementioned sections, the COC plume is contained and attenuating. The results of the fate and transport model, discussed in Section 4.6, indicates that potential migration of dissolved COC in groundwater will not impact the water quality of the Savannah River. As discussed in the site conceptual model, the only remaining risk would be potential incidental contact of contaminated groundwater to construction workers. These types of exposure are only expected to occur during activities such as soil excavation. VTSI can use institutional controls to prevent potential exposure to construction workers. Considering that VTSI has a long term lease with GPA on the subject property, continued MNA would enable VTSI to reach remedial end points within a reasonable time frame. As such, VTSI elected to pursue Type 5 RRS option as a contingency measure in accordance with the terms of the VIRP.

## 5.2 STAKEHOLDER ENDORSEMENT

VTSI presented the Type 5 RRS option to GPA (site owner) and obtained endorsement. Subsequently, EIC arranged a joint stakeholder meeting between VTSI, GPA, and EPD. In a that meeting held at the EPD office, on February 25, 2016, EIC presented the results of the VIRP program and proposed Type 5 RRS as a site remedy for the residual COC. EPD acknowledged that such an option would be feasible and directed VTSI to prepare a compliance status report (CSR) along with a Uniform Environmental Covenant (UEC) to address the prevailing site risks.

## 5.3 UNIFORM ENVIRONMENTAL COVENANT

The UEC requires engineering and or institutional controls to manage potential risks - such as the residual contamination remaining at the site. Considering that the site is a regulated and secure facility with controlled access, no additional engineering controls would be required to manage the environmental risks. Nonetheless, VTSI requires all contractors and site workers to comply with site specific health and safety requirements and all site work is controlled with issuance of work permits. VTSI will update these procedures in order to ensure that any contractors involved in excavation activities is aware of the exposure risks and follows proper health and safety protocols. This process will therefore serve as institutional controls. The following protocol has been developed to implement institutional controls.

### 5.3.1 Institutional Controls

The modified work permit to be issued by VTSI to contractors will notify contractors that special stipulations apply for any excavation activities within the residual COC foot-print. The UEC will include a figure clearly illustrating the extent of the COC foot-print. Construction workers performing excavation or subsurface utility work that may result in exposure to groundwater in the designated areas would be required to meet appropriate health and safety training and perform the work in accordance with a Health and Safety Plan prepared by a qualified environmental/safety professional. The permit will also stipulate that any extracted groundwater should not be discharged into the storm water system or surface waters. Instead, any impacted groundwater extracted from the site will be managed in accordance with all applicable local, state and federal rules and regulations governing the management of such material.

Any future development of the property with enclosed structures in the area covered by the residual COC foot-print will be required to conduct a vapor intrusion evaluation and implement appropriate vapor mitigation system or barrier. Upon installation, such vapor management systems will be properly maintained, until the regulated substances in soil and groundwater at the site reach Type 4 RRS; or until vapor modeling of groundwater indicates that vapor mitigation is not required for enclosed structures and EPD concurs with the vapor modeling results.

## 5.4 PETITION TO DELIST

Based on this CSR, please note that the site is in compliance with Georgia's Type 5 risk reduction standards (RRS) for groundwater cleanup. Consequently, VTSI petition's EPD to delist the site from the State of Georgia Hazardous Site Response Act (HSRA) Site Inventory.

SECTION 6

# 6 REFERENCES


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EPA, 2015. *Field Equipment Cleaning and Decontamination, Operating Procedure, Number SESDPROC-205-R3, Region 4, U.S. Environmental Protection Agency, Science and Ecosystem Support Division*. Athens, Georgia, December 18, 2015.

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# COMPLIANCE STATUS REPORT

# TABLES

## Table 4-1: Well Construction Data

| Well I.D. (dia, in.) | TOC Elevation (ft.) | GS Elevation (ft.) | Measured Total Depth (BTOC) (ft.) | Stick Up Height (ft.) | Measured Total Depth (BGS) (ft.) | Screen Length (ft.) | Screen Slot Size (in.) | Well Casing and Screen Material | Filter Pack | Filter Pack Diameter (in.) | Filter Pack Interval (BGS) (ft.) | Filter Pack Seal | Date of Installation | Installation Type | Well Development Procedure |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IW-1R (1) | 10.51 | 10.52 | 18.90 | -0.01 | 18.91 | 10 | UNK | PVC | 10/20 Sand | 3.25 | 7.00 - 19.90 | Bentonite | 10/10/2006 | 5410 Geoprobe | UNK |
| IW-18 (1) | 10.07 | 10.33 | 23.96 | -0.26 | 24.22 | 10 | UNK | PVC | 10/20 Sand | UNK | 5.60 - 20.60 | UNK | UNK | UNK | UNK |
| LAW-PZ-8R (1) | 9.22 | 9.59 | 11.10 | -0.37 | 11.47 | 10 | UNK | PVC | 10/20 Sand | 2.13 | 1.00 - 11.80 | Bentonite | 10/09/2006 | 5410 Geoprobe | UNK |
| MW-14 (2) | 8.86 | 9.08 | 49.57 | -0.22 | 49.79 | 10 | UNK | PVC | 626 Sand | UNK | 39.44 - 49.57 | UNK | UNK | UNK | UNK |
| MW-16 (1) | 17.01 | 13.82 | 14.02 | 3.19 | 10.83 | 10 | UNK | PVC | 20/40 Sand | UNK | 4.95 - 14.95 | Bentonite | 10/11/2000 | UNK | UNK |
| MW-17R (1) | 15.89 | 11.70 | 23.96 | 4.19 | 19.77 | 15 | UNK | PVC | 10/20 Sand | 2.13 | 2.00-20.60 | Bentonite | 10/09/2006 | 5410 Geoprobe | UNK |
| MW-18R (1) | 14.12 | 10.23 | 16.55 | 3.89 | 12.66 | 10 | 0.01 | PVC | 20/40 Sand | 4.00 | 2.00-14.00 | Bentonite | 4/28/2008 | Geoprobe | UNK |
| MW-19 (1) | 14.91 | 10.63 | 17.96 | 4.28 | 13.68 | 10 | 0.01 | PVC | 20/40 Sand | 2.25 | 2.00 - 13.38 | Bentonite | 6/20/2001 | Geoprobe | UNK |
| MW-23 (1) | 10.39 | 10.68 | 11.68 | -0.29 | 11.97 | 5 | 0.01 | PVC | 20/40 Sand | 2.25 | 4.00 - 11.15 | Bentonite | 6/20/2001 | Geoprobe | UNK |
| MW-24R (1) | 11.81 | 7.95 | 18.40 | 3.86 | 14.54 | 10 | 0.01 | PVC | 20/40 Sand | 4.00 | 3.00 - 16.40 | Bentonite | 11/13/2001 | UNK | UNK |
| MW-25 (1) | 14.76 | 11.48 | 17.91 | 3.28 | 14.63 | 10 | 0.01 | PVC | 20/40 Sand | 2.25 | 4.50-16.50 | Bentonite | 11/14/2001 | Geoprobe | UNK |
| MW-26R (1) | 10.59 | 10.95 | 14.51 | -0.36 | 14.87 | 10 | UNK | PVC | 10/20 Sand | 2.13 | 3.00 - 15.10 | Bentonite | 10/09/2006 | 5410 Geoprobe | UNK |
| MW-27 (1) | 9.38 | 9.58 | 13.84 | -0.20 | 14.04 | 10 | 0.01 | PVC | 20/40 Sand | 2.25 | 5.8 - 17.79 | Bentonite | 11/29/2001 | Geoprobe | UNK |
| MW-28 (1) | 11.36 | 11.52 | 14.05 | -0.16 | 14.21 | 10 | 0.01 | PVC | 10/20 Sand | 3.00 | 1.50 - 13.71 | Bentonite | 10/2/2002 | Geoprobe | UNK |
| MW-29 (3/4) | 11.73 | 7.66 | 23.15 | 4.07 | 19.08 | 10 | UNK | PVC | 10/20 Sand | 2.00 | 10.0 - 20.0 | Bentonite | 6/22/2006 | 5410 Geoprobe | UNK |
| MW-30 (2) | 11.23 | 11.53 | 16.05 | -0.30 | 16.35 | 10 | 0.01 | PVC | 20/30 Sand | 8.25 | 5.25 - 15.25 | Bentonite | 4/4/2011 | Hollow-Stem Auger-55 CME | Purging |
| MW-31 (2) | 9.67 | 9.99 | 20.48 | -0.32 | 20.80 | 10 | 0.01 | PVC | 20/30 Sand | 8.25 | 10.50 - 20.50 | Bentonite | 4/25/2011 | 6620DT Geoprobe with Hollow Stem Auger | Purging |
| MW-32 (2) | 11.70 | 12.11 | 18.41 | -0.41 | 18.82 | 10 | 0.01 | PVC | 20/30 Sand | 8.25 | 8.50 - 16.50 | Bentonite | 4/25/2011 | 6620DT Geoprobe with Hollow Stem Auger | Purging |
| MW-33 (2) | 8.96 | 8.86 | 14.35 | 0.10 | 14.25 | 10 | 0.01 | PVC | 20/30 Sand | 8.25 | 5.50 - 15.50 | Bentonite | 4/5/2011 | 6620DT Geoprobe with Hollow Stem Auger | Purging |
| MW-34 (2) | 10.81 | 11.18 | 16.34 | -0.37 | 16.71 | 10 | 0.01 | PVC | 20/30 Sand | 8.25 | 6.50 - 16.50 | Bentonite | 4/26/2011 | 6620DT Geoprobe with Hollow Stem Auger | Purging |
| MW-35 (2) | 10.40 | 10.64 | 15.32 | -0.24 | 15.56 | 10 | 0.01 | PVC | 20/30 Sand | 8.25 | 5.63 - 15.63 | Bentonite | 12/17/2013 | 6620DT Geoprobe with Hollow Stem Auger | Purging |
| MW-36 (2) | 10.42 | 10.55 | 15.43 | -0.13 | 15.56 | 10 | 0.01 | PVC | 20/30 Sand | 8.25 | 5.55 - 15.55 | Bentonite | 12/17/2013 | 6620DT Geoprobe with Hollow Stem Auger | Purging |
| MW-37 (2) | 11.57 | 11.60 | 15.15 | -0.03 | 15.18 | 10 | 0.01 | PVC | 20/30 Sand | 8.25 | 5.15 - 15.15 | Bentonite | 12/16/2013 | 6620DT Geoprobe with Hollow Stem Auger | Purging |
| PAN - MW-9 | 12.59 | 9.28 | 14.77 | 3.31 | 11.46 | 10 | UNK | PVC | 620 Sand | UNK | 3.0 - 13.0 | Bentonite | 1/28/1991 | UNK | UNK |
| PAN - MW-10 | 13.81 | 10.13 | 15.9 | 3.68 | 12.22 | 10 | UNK | PVC | 621 Sand | UNK | 3.0 - 13.0 | Bentonite | 1/28/1991 | UNK | UNK |

**Notes:**

TOC = Top of Casing
GS = Ground Surface
BTOC = Below Top of Casing
BGS = Below Ground Surface
UNK = Unknown based on avaliable records
in. = inch
ft. = feet

Well construction information of all wells except MW-30 through MW-37 provided by VTSI from historical records.

TOC and GS elevations are based on well surveys conducted by EMC Engineering on June 30, 2011, January 24, 2013, and on January 20, 2014 and Mock Surveying in April 2016 and are of the NGVD 29 Datum convention

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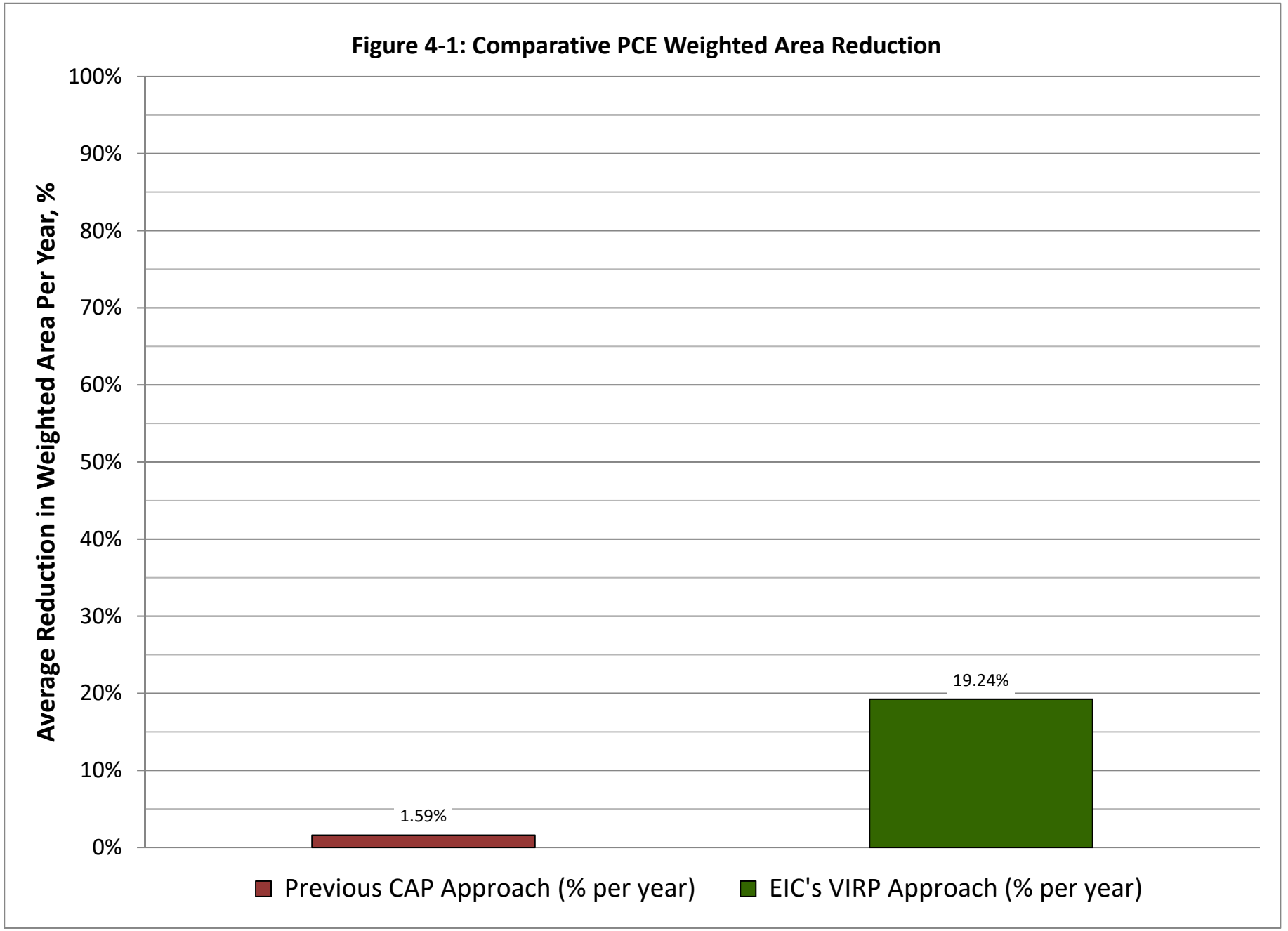
# COMPLIANCE STATUS REPORT

# FIGURES

**Figure 4-1: Comparative PCE Weighted Area Reduction**



HSI SITE NO. 10464, PCE REMEDIATION, VOPAK TERMINAL SAVANNAH

# COMPLIANCE STATUS REPORT

# ATTACHMENT A:
# CSR Requirements Checklist

# Compliance Status Report
# Review Checklist

| | | | | | |
|---|---|---|---|---|---|
| **Site Name:** | Vopak Terminal Savannah | | | **HIS #:** | 10464 |
| **City/County:** | Garden City, Chatham County, Georgia | | | **CSR DATE:** | 7/29/2016 |
| **PRP:** | Vopak Terminal Savannah Inc. | **Revision No. (if applicable):** | | **Consultant:** | Environmental International Corporation |

| **Release to Soil:** | | **YES** | **(NO)** | **Release to Groundwater:** | | **(YES)** | **NO** |
|---|---|---|---|---|---|---|---|
| **Soil RRS Certification:** | **Type 1** | **Type 2** | **Type 3** | **(Type 4)** | **Type 5** | **Cannot Certify** | |
| **GW RRS Certification:** | **Type 1** | **Type 2** | **Type 3** | **Type 4** | **(Type 5)** | **Cannot Certify** | |

| RULE SECTION | DESCRIPTION OF REQUIREMENT | Y or [-] | Location in CSR (i.e. pg.) |
|---|---|---|---|
| 391- 3-19-.06(3)(b)(1) | A description of each known source which has contributed to or is contributing to a release at the site including: | Y | pg. 4 |
| 391- 3-19-.06(3)(b)(1)(i) | Source name, number, or other descriptor; | Y | pg. 4 |
| 391- 3-19-.06(3)(b)(1)(ii) | Location of source on a map (minimum scale of 1" = 200'); | Y | pg. 4, Figure 1-2 in Exhibit A |
| 391- 3-19-.06(3)(b)(1)(iii) | Name of each regulated substance released from each source; | Y | pg. 3 |
| 391- 3-19-.06(3)(b)(1)(iv) | Chronology of each source of a release; and | Y | pg. 4 |
| 391- 3-19-.06(3)(b)(1)(v) | If source is an engineered structure or waste management unit, a description of the function, design, dimensions, capacity and operation of the source, including as-built construction diagrams where available | - | - |
| | **Releases to Soil** | | |
| 391- 3-19-.06(3)(b)(2) | Complete definition of horizontal and vertical extent of soil contamination to background. Background shall be determined using samples representative of soil conditions not affected by a release of a regulated substance. In support of the definition of the extent of contamination, the CSR shall include, at a minimum: | - | - |
| 391- 3-19-.06(3)(2)(b)(i) | General approach used; | - | - |
| 391- 3-19-.06(3)(b)(2)(ii) | Analytical parameters selected and the rationale for selection; | - | - |
| 391- 3-19-.06(3)(b)(2)(iii) | Map of minimum scale of 1" = 200' showing location of all sampling points by sample number, and vertical cross-sections where appropriate. Concentrations of constituents should be indicated by isoconcentration lines. | - | - |
| 391- 3-19-.06(3)(b)(2)(iv) | Sampling and analysis procedures including: | - | - |
| 391- 3-19-.06(3)(b)(2)(iv)(I) | Sampling equipment and collection techniques; | - | - |
| 391- 3-19-.06(3)(b)(2)(iv)(II) | Field analytical or measurement techniques including make and model of equipment and calibration schedule and type; | - | - |
| 391- 3-19-.06(3)(b)(2)(iv)(III) | Sample handling and preservation techniques; | - | - |
| 391- 3-19-.06(3)(b)(2)(iv)(IV) | Equipment decontamination procedures; | - | - |
| 391- 3-19-.06(3)(b)(2)(iv)(V) | Chain-of-custody procedures; | - | - |
| 391- 3-19-.06(3)(b)(2)(iv)(VI) | Lab techniques including references to analytical methods, including QA/QC procedures; | - | - |
| 391- 3-19-.06(3)(b)(2)(v) | A description of any statistical procedures used to evaluate the data; | - | - |
| 391- 3-19-.06(3)(b)(2)(vi) | Procedures used to establish background soil concentrations; and | - | - |
| 391- 3-19-.06(3)(b)(2)(vii) | Narrative and tabular summary of all pertinent field data and the results of all final lab analyses that are supported by sufficient QA/QC control data to validate the results. | - | - |
| | **Releases to Groundwater** | | |
| 391- 3-19-.06(3)(b)(3) | Complete definition of horizontal and vertical extent of groundwater contamination to background. Background shall be determined using samples representative of groundwater conditions not affected by a release of a regulated substance. In support of the definition of the extent of contamination, the CSR shall include, at a minimum: | Y | pg. 4-5 |
| 391- 3-19-.06(3)(b)(3)(i) | Analytical parameters selected and the rationale for selection; | Y | pg. 3 |
| 391- 3-19-.06(3)(b)(3)(ii) | A description of methods used to characterize sub-surface geology; | Y | pg. 3 |
| 391- 3-19-.06(3)(b)(3)(iii) | A description of methods used to characterize vertical and horizontal groundwater flow gradients, flow rates, and flow directions; | Y | pg. 3 |
| 391- 3-19-.06(3)(b)(3)(iv) | Methods used to determine hydraulic conductivities and other pertinent hydrogeological characteristics, including a description of any slug and/or aquifer tests; | Y | pg. 3, Appendix A in Exhibit E |
| 391- 3-19-.06(3)(b)(3)(v) | A description of groundwater monitoring well locations, and their installation and construction methods, including: | Y | Figure 1-1 in Exhibit G, Table 4-0 |
| 391- 3-19-.06(3)(b)(3)(v)(I) | A map (minimum scale 1"= 200') depicting all existing well locations including a survey of each well's surface reference point and the elevation of its top-of-casing; | Y | Figure 1-1 in Exhibit G, Table 4-1 |
| 391- 3-19-.06(3)(b)(3)(v)(II) | Type of well casing material; | Y | Table 4-1 |

| RULE SECTION | DESCRIPTION OF REQUIREMENT | Y or [-] | Location in CSR (i.e. pg.) |
|---|---|---|---|
| 391- 3-19-.06(3)(b)(3)(v)(III) | Description of well intake design including screen slot size and length, filter pack materials and length, and method of filter pack emplacement; | Y | Table 4-1 |
| 391- 3-19-.06(3)(b)(3)(v)(IV) | Method used to seal the well from the surface and any other features designed to prevent or minimize downward migration of contaminants along the well annulus; and | Y | Table 4-1 |
| 391- 3-19-.06(3)(b)(3)(v)(V) | Description of methods and procedures used to develop the wells. | Y | Table 4-1 |
| 391- 3-19-.06(3)(b)(3)(vi) | Description of all sampling and analysis procedures used including: | Y | pg. 13 |
| 391- 3-19-.06(3)(b)(3)(vi)(I) | Procedures and timing for measuring groundwater elevations for each sampling event; | Y | pg. 13 |
| 391- 3-19-.06(3)(b)(3)(vi)(II) | Well evacuation procedures including well volume evacuated prior to sampling; | Y | pg. 13 |
| 391- 3-19-.06(3)(b)(3)(vi)(III) | Sample withdrawal techniques, sampling equipment and materials; | Y | pg. 13 |
| 391- 3-19-.06(3)(b)(3)(vi)(IV) | Sample handling and preservation techniques; | Y | pg. 13 |
| 391- 3-19-.06(3)(b)(3)(vi)(V) | Equipment decontamination procedures; | Y | pg. 13 |
| 391- 3-19-.06(3)(b)(3)(vi)(VI) | Chain-of-custody procedures; | Y | pg. 13 |
| 391- 3-19-.06(3)(b)(3)(vi)(VII) | Lab techniques including references to analytical methods, including QA/QC procedures; | Y | pg. 13 |
| 391- 3-19-.06(3)(b)(3)(vii) | Description of procedures used to determine background groundwater concentrations; | Y | pg. 14 |
| 391- 3-19-.06(3)(b)(3)(viii) | Map (minimum scale of 1" = 200') or less depicting the horizontal extent of contamination. Concentrations should be indicated by isoconcentration lines. | Y | Figures 3-3 to 3-10 in Exhibit G |
| 391- 3-19-.06(3)(b)(3)(ix) | Map (minimum scale of 1" = 200') or less depicting the potentiometric surface of groundwater; | Y | Figure 3-1 in Exhibit G |
| 391- 3-19-.06(3)(b)(3)(x) | Maps and vertical cross-sections of appropriate scale depicting concentrations for all contaminants superimposed upon site stratigraphic features and monitoring wells; and | Y | Appendix A in Exhibit E |
| 391- 3-19-.06(3)(b)(3)(xi) | Narrative and tabular summary of all pertinent field data and the results of all final lab analyses that are supported by sufficient QA/QC control data to validate the results. | Y | pg. 14 |
| **Additional Requirements** | | | |
| 391- 3-19-.06(3)(b)(4) | A description of any human or environmental receptors who may have been or could potentially be exposed to a release at the site. | Y | pg. 7-8 |
| 391- 3-19-.06(3)(b)(5) | A description of all properties which are part of the site including the address and location of such property, its legal description, and the property owner's name, address and telephone number. | Y | Exhbit A |
| 391- 3-19-.06(3)(b)(6) | The name, address, and telephone number of any other person who may be a responsible party for the site and a description of the type and amount of regulated substances such party may have contributed to a release. | - | - |
| 391- 3-19-.06(3)(b)(7) | A summary of previous actions taken to eliminate, control or minimize any potential risk at the site, including actions taken to comply with the risk reduction standards. | Y | pg. 9-10 |
| 391- 3-19-.06(3)(b)(10) | Attached to the front of the CSR, concise statement of the findings of the report presented in plain language, immediately followed by the certification required by 391-3-19-.06(4)(a). | Y | Cover page |
| 391-3-19-.06(4)(a) | The CSR shall include a compliance certification regarding the responsible party's own determination as to the status of a site or any individual property at a site with regard to the applicable risk reduction standards for all regulated substances evaluated by the CSR. | Y | Certification Page |
| 391-3-19-.06(4)(b) | The CSR certification shall be signed by the applicable person described in Items 1 - 4 of .03(6)(c). Where the CSR is submitted for two or more cooperating responsible parties, the certification may be signed by a duly authorized representative of said responsible parties. | Y | Certification Page |
| 391-3-19-.06(4)(c) | Any person signing the certification of compliance shall make the certification specified in the Rules. | Y | Certification Page |
| 391- 3-19-.06(5)(a) | Within 7 days of submitting the CSR, RP shall publish a notice in both a major local newspaper of general circulation and the legal organ of the local governments in whose jurisdiction the site is located, announcing that such a report is available for inspection by the general public, including: | Y | - |
| 391- 3-19-.06(5)(a)(1) | The name, address, and location of the site as it appears on the HSI, and, if the plan applies to less that the full site, the street address and owner's name of the applicable properties; | Y | - |

| RULE SECTION | DESCRIPTION OF REQUIREMENT | Y or [-] | Location in CSR (i.e. pg.) |
|---|---|---|---|
| 391- 3-19-.06(5)(a)(2) | The statement provided in this section; | Y | - |
| 391- 3-19-.06(5)(a)(3) | Announcement of a 30-day comment period and the name, address, and phone number of the EPD contact person to whom written or oral comments can be made; | Y | - |
| 391- 3-19-.06(5)(a)(4) | Name, address, and phone number of the RP or its designated contact person; and | Y | - |
| 391- 3-19-.06(5)(a)(5) | Location where the report may be viewed or copied. | Y | - |
| 391- 3-19-.06(5)(e) | Within 7 days of submitting the CSR to EPD, the RP shall provide to the count government in the county in which the site is located and to the government of any city in whose jurisdiction the site is located the same information required above. | Y | - |
| 391-3-19-.07(4) | For corrective action to be in compliance with these standards, the following common elements are required: | Y | - |
| 391-3-19-.07(4)(a) | Removal of all free product to the extent practicable. | Y | - |
| 391-3-19-.07(4)(b) | No soil remaining in place shall exhibit the hazardous waste characteristics of ignitability, corrosivity, or reactivity. | Y | pg. 4 |
| 391-3-19-.07(4)(c) | Shall not allow exposure to concentrations which would cause food chain contamination, damage to soils or to biota which could impair the use of the soils for agricultural or silvicultural purposed, adverse effects on vegetation or wildlife, or the accumulation of vapors in buildings or other structures which pose a threat to human health and the environment | Y | pg. 7-8, 15-17 |
| 391-3-19-.07(4)(d) | Shall protect the waters of the State from releases that would cause surface water to exceed the Georgia in-stream water quality standards. | Y | PG. 15-17 |
| 391-3-19-.07(4)(e) | If the detection limit and/or the background concentration for a regulated substance is greater than the concentration specified in any risk reduction standard, the greater of the detection limit or background shall be used for determining compliance with the risk reduction standards. | - | - |

| | |
|---|---|
| YES | Groundwater work certified by a geologist, etc. |
| NA | Corrective Action Plan Included |

Additional Notes:

| CONSTITUENTS OF CONCERN - SOIL | | | | |
|---|---|---|---|---|
| **Constituent** | **CAS No.** | **Notification Concentration** | **RRS Type** | **In compliance with RRS?** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
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| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |

| CONSTITUENTS OF CONCERN - GROUNDWATER | | | | |
|---|---|---|---|---|
| **Constituent** | **CAS No.** | **MCL (µg/L)** | **RRS Type** | **In compliance with RRS?** |
| Tetrachloroethene (PCE) | 127-18-4 | 5 | 5 | **(yes) no** |
| Trichloroethene (TCE) | 79-01-6 | 38 | 5 | **(yes) no** |
| cis-1,2-Dichloroethene (DCE) | 156-59-2 | 1022 | 5 | **(yes) no** |
| Vinyl Chloride | 75-01-4 | 3 | 5 | **(yes) no** |
| Benzene | 71-43-2 | 9 | 5 | **(yes) no** |
| Toluene | 100-41-4 | 5241 | 5 | **(yes) no** |
| Ethylbenzene | 108-88-3 | 700 | 5 | **(yes) no** |
| Total Xylenes | 133-02-07 | 10000 | 5 | **(yes) no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |
| | | | | **yes no** |

HSI SITE NO. 10464, PCE REMEDIATION, VOPAK TERMINAL SAVANNAH

# COMPLIANCE STATUS REPORT

# EXHIBIT A:
# Revised VIRP Application
**(Included on Enclosed CD)**

PCE REMEDIATION, VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# REVISED VRP APPLICATION

April 2, 2011

Submitted To:
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SECTION 1

# 1 INTRODUCTION

The Vopak Terminal Savannah (VOPAK), in Savannah, Georgia is located on land leased from Georgia Ports Authority. Prior to VOPAK's acquisition in 1992, the terminal was operated by Paktank Corporation.

The site is subject of a tetrachloroethene or perchloroethene (PCE) release. Over the years, the PCE has degraded into other dissolved chlorinated volatile organic compounds (CVOCs). The site is currently listed on the State of Georgia Hazardous Site Response Act (HSRA) site inventory as Site Number 10464, Paktank Corporation – Savannah Terminal (now known as VOPAK).

VOPAK is currently addressing the PCE release under consent order No. EPD-HSR-384 issued by the Georgia Environmental Protection Division (EPD). The consent order involved implementation of an approved corrective action plan (CAP) (ERM, 2005). The CAP projected a 20-year cleanup time period.

This application to the EPD's Voluntary Remediation Program (VRP) was prepared to define a pathway for conducting remediation in a more effective and timely manner. Once approved, the VRP standards will supersede the CAP requirements. The completed VPR Application form and checklist is in Attachment A.

The following sections address the elements of the VRP application criteria. The material used in preparing this application was primarily derived from activities performed in compliance with the EPD approved CAP.

## 1.1 SITE LOCATION AND DESCRIPTION

The physical site address is the Georgia Ports Authority Gate No. 2 on Turner and Hart Street, Garden City, Savannah, Georgia. The site, located in Chatham County, has operated as a bulk storage facility since 1951. Historically the terminal stored various fuels and chemicals. The area surrounding the site consists of a latex products storage facility to the north, an asphalt roofing materials manufacturing facility and the Savannah River to the east, and the Georgia Port Authority

container storage facility to the west. Figure 1-1 depicts the site location. The warranty deed for the site is located in Attachment B. The tax plats of the site are located in Attachment C.

## 1.2 SITE HYDROGEOLOGY

According to the CAP, the site is underlain by silty sands and clays to a depth of approximately 17 feet below ground surface (bgs). Two geologic cross-sections from the CAP illustrate the subsurface. Figure 1-2 depicts the cross section traces in plan view. Cross Section A-A' (Figure 1-3) extends south to north and Cross Section B-B' (Figure 1-4) extends east to west. Based on historical gauging data, depth to groundwater ranges approximately from 4 to 11 feet below ground surface. A groundwater potentiometric surface map (Figure 1-5), prepared by ERM for the recent CAP annual report (ERM, 2010), indicates a northerly to northeasterly direction of ground water flow at the site.

Estimates of the hydraulic gradient at the site ranges from 0.0145 to 0.0133. Hydraulic conductivity was determined to range from 3.09 x 10-4 cm/sec to 4.31 x 10-5 cm/sec, and the estimated seepage velocity to be approximately 21 to 23 feet per year (CAP).

## 1.3 COC & DELINEATION STANDARDS

The primary contaminants of concern (COC) at the site are CVOCs. As discussed in Section 2.1, the PCE released at the site has degraded into other CVOCs. Additionally, VOPAK is currently investigating historic volatile organic compounds (VOC) discovered at the site. The delineation standards for soil and groundwater are listed in Tables 1-1 and 1-2.

## 1.4 RISK REDUCTION STANDARDS

In accordance with EPD rules, VOPAK developed Type 3 risk reduction standards (RRS) for soil and Type 4 RRS for groundwater as delineation standards. According to ERM, EPD approved both standards for the site (ERM, 2002).

### 1.4.1 RRS for Soil

In 2003, VOPAK developed Type 4 RRS for soils (ERM, 2003). After successive iterations, between 2003 and 2004, EPD approved the final RRS for soils. VOPAK utilized the soil RRS to delineate the horizontal and vertical extent of soil contamination. As discussed in section 3.1, VOPAK remediated soils that exceeded the soil delineation standards. All source material exceeding the soil delineation standards was therefore removed from the site.

### 1.4.2 RRS for Groundwater

In 2005, EPD approved revised Type 3/4 RRS for groundwater (EPD, 2005). Table 1-3 lists the current RRS approved in the CAP. Subsequently, VOPAK initiated a groundwater remediation program as discussed in Section 3.2.

SECTION 2

# 2 SITE CONCEPTUAL MODEL

A Site Conceptual Model (SCM), also known as Conceptual Site Model, is a summary of the site condition as it pertains to a contaminant release. Typically, the model defines release sources, extent of the plume, likely fate and transport mechanisms, potential exposure pathways, and potential receptors that could be impacted. This information serves as an important tool in developing site remedies. The following sections provide a preliminary SCM based on available site data. As additional knowledge is gained, during the implementation of the VRP, VOPAK will further refine the SCM.

## 2.1 RELEASE SOURCES

### 2.1.1 PCE Release

PCE was stored in Tank 24 during the period December 1972 through April 1975 (CAP). In 1996, a PCE release was discovered in the vicinity of Tank 24. Since no PCE has been stored at the site since 1975, the release was attributed to previous terminal operations. Subsequently, the site's previous owners and VOPAK have conducted various investigatory and remedial activities per the EPD, including source removal.

Due to natural attenuation, the PCE has degraded into trichloroethene (TCE), dichloroethene (DCE), and vinyl chloride (VC). Therefore, both PCE and these daughter products are the main chemicals of concern at the facility. All four of these chemicals are CVOCs. Table 2-1 lists the analytical results of CVOCs monitored during the period Feb 1991 through September 2009.

### 2.1.2 BTEX Release

Based on the recent annual CAP report (ERM, 2010), it is apparent that certain VOCs consisting of benzene, toluene, ethylbenzene, and xylenes (BTEX) have been consistently detected in certain monitoring wells at the site. The BTEX analytical results monitored for the period from December 1998 through September 2009 from the recent CAP annual report are presented in Table 2-2.

To determine the source of the BTEX, VOPAK reviewed the historic data collected at the site. A brief summary of this review is included in Attachment D. Based on the review, it is clear that three well-defined dissolved BTEX plumes were identified back in 1996. The first plume was located within the same foot-print as the current PCE plume. The second BTEX plume, located to the west of the first plume, was separated by a distance of more than 1,000 feet. A smaller third BTEX plume was located approximately 400 feet to the north west of the second plume. The sources of these plumes were not apparent from the available documents.

On January 12, 1999, a major diesel release took place from AST 22 that resulted in LPH accumulations at the second and third plumes. VOPAK is currently performing diesel remediation in these areas in compliance with EPD requirements specified by the Watershed Protection Branch.

## 2.2 EXTENT OF PCE PLUME

### 2.2.1 Soil Delineation

Soil contamination resulting from the PCE release was delineated during the period from 2001 to 2006. A review of the analytical results from this activity indicated that BTEX concentrations were also delineated within the area impacted by PCE release. As discussed in Section 3.1, soil excavation within the PCE footprint met RRS standards for both CVOCs and BTEX concentrations.

### 2.2.2 Groundwater Delineation

Chlorinated Volatile Organic Compounds

Figures 2-1 through 2-4 illustrate the horizontal extent of the dissolved CVOCs relative to the groundwater delineation concentrations listed in Table 1-2. In reviewing the figures, it appears that the dissolved CVOC plume is confined to a relatively small area within the tank farm where the original PCE release took place. Referring to the historic data, it is apparent that the CVOC plume has remained stable in this area. VOPAK is currently evaluating both the horizontal and vertical extent of the CVOCs plume.

Dissolved CVOC concentrations of PCE, TCE, 1,2-DCE, and vinyl chloride currently meet the established RRSs in the CAP in all but seven wells, namely PAN-MW-9, LAW-PZ-8, MW-16, MW-22/22R, MW-24/24R, MW-26/26R, and MW-29. Referring to Table 2-1, the following observations of groundwater RRS exceedences are noted:

- CVOC concentrations in LAW-PZ-8, MW-22/22R, and MW-29 currently exceed the RRSs for PCE, TCE, 1,2-DCE, and vinyl chloride
- Concentrations in PAN-MW-9 and MW-24/24R currently meet all the RRS except for PCE, TCE, and vinyl chloride
- Concentrations in MW-16 and MW-26/26R meet all the RRS except for vinyl chloride

- The PCE concentration in LAW-PZ-8, that was 70 ppb in October 2003, increased to 300 ppb in October 2006, and has fluctuated between 99 and 570 ppb between October 2006 and September 2009. Similarly, the PCE concentration, in MW-24/24R, that was 97 ppb in October 2003, increased to as high as 1,300 ppb in June 2006, however it has decreased to 93 ppb.
- The PCE concentrations in MW-22/22R are the highest of the sampled wells at 3,000 ppb.

BTEX

Figures 2-5 through 2-8 illustrate the horizontal extent of BTEX concentrations, within the PCE foot-print, relative to the groundwater delineation concentrations listed in Table 1-2. Similar to the dissolved CVOCs, the dissolved BTEX plume in the PCE footprint also appears confined to a relatively small area within the tank farm where the original PCE release took place. Referring to the historic data, (Attachment D), it is apparent that the BTEX concentrations have significantly reduced in this area. VOPAK is currently evaluating both the horizontal and vertical extent of the dissolved BTEX plumes, in the area to the west of the PCE plume, under a separate program regulated by the EPD's Watershed Protection Branch.

## 2.3 FATE & TRANSPORT

The main purpose of determining potential exposure pathways is to assess the migration potential of the released COC in a multimedia setting. Based on such an assessment, it is possible to establish potential exposure levels, critical in establishing risk-based screening and cleanup goals.

It would be expected that the released COCs at the site are subject to the following mechanisms:

- Physical separation of released product into gas and other states of matter due to sorption, solubility and other equilibrium reactions.
- Advection referring to bulk movement of the immiscible liquid.
- Dispersion involving horizontal and vertical spreading of partitioned constituents.
- Diffusion consisting of spreading from concentration gradients.
- Biodegradation by native microorganisms along the migration pathway.
- Other attenuation processes that reduce the concentrations with time and distance.

The PCE release was terminated upon discovery and has not been stored at the site since 1975. According to the 2005 CAP, there are two main transport mechanisms of exposure occurring at the site. These included leachate from contaminated soils that act as source material and transport of leachate in the groundwater medium. However, leachate is no longer a concern at the VOPAK site, because the contaminated soil was excavated in 2006 (EPD, 2006). As such, at this site, the primary mechanisms affecting the exposure pathways of COCs are advection, dispersion, diffusion, and biodegradation.

## 2.4 MIGRATION PATHWAYS

Based on previous investigations, it is apparent that dissolved VOCs are the primary COC. The following sections outline both the CVOCs and VOCs that are currently under investigation.

### 2.4.1 CVOC Migration Potential

Typically, dissolved contaminants tend to move with the groundwater flow. Consequently, the peak plume would be subject to a migration consistent with seepage velocity. The PCE plume, illustrated in the sequential maps in Figure 2-9 has not migrated in the direction of ground water flow. Referring to Figure 2-9, however, it is apparent that the peak plume has remained stable in the vicinity of Tanks 32 and 34. As such, there appears to be no immediate down-gradient receptors of contaminated groundwater adjacent to the site. Further evaluation of the trends of the target contaminants will be conducted as described in the projected milestone schedule (Section 5).

### 2.4.2 VOC Migration Potential

Volatile organic compounds primarily composed of BTEX constituents are present within the PCE plume foot-print primarily in wells PAN-MW-9 and LAW-PZ-8/8R (ERM, 2010) and, as such, would likely be subject to similar hydrodynamic mechanisms as those that affect the PCE plume. VOPAK is currently evaluating the VOC migration potential of BTEX in the remaining areas. The results from a property-wide groundwater sampling event from all site wells will be utilized to identify potential source(s) and migration potential.

## 2.5 POTENTIAL RECEPTORS

### 2.5.1 Human Health Receptors

Since all contaminated soil that exceeded the RRS was excavated in 2006, as discussed in Section 3.1, subsurface soil is neither a concern to VOPAK employees nor to construction workers at the site. Consequently, only groundwater contamination presents potential human exposure at the site. When addressing groundwater exposure receptors, the 2005 CAP states, "Because the site and surrounding area are served by a municipal water supply system, groundwater from the surficial aquifer is not being used for human consumption. VOPAK will also ensure that any construction works conducted within the area covering contaminated groundwater will be limited to the extent of the vadose zone. Therefore, human exposure to contaminated ground water is an unlikely exposure pathway" (CAP). The CAP also states that there are no private wells within a two-mile radius of the VOPAK Terminal site.

### 2.5.2 Ecological Receptors

According to the 2005 CAP, the VOPAK Savannah site was reviewed by the Georgia Natural Heritage Program (GNHP) to identify potential ecological receptors that may be impacted from contamination levels at VOPAK. GNHP found no rare, imperiled, and critically imperiled plant and animal species at the site. Due to its entity as an industrial facility, VOPAK does not provide habitat for plants or animals. In addition, wetlands are not of concern at the VOPAK site. According to the 2005 CAP, "With the exception of drainage ditches and other man-made depressions, no wetland-like areas were observed on the site" (CAP).

## 2.6 OTHER PATHWAYS

As discussed in Section 2.4, groundwater is the primary pathway for migration of COCs is the primary pathway at this site. Upon completion of the horizontal and vertical delineation of COCs, proposed in this VRP, potential for migration through other media such as surface water, air, soil, and sediment will be evaluated. Figure 2-10 illustrates potential pathways through which the COCs can migrate. VOPAK will in particular evaluate the vapor intrusion potential to ensure that terminal personnel, contactors are not at risk of exposure.

## 2.7 MODEL LIMITATIONS

The preliminary SCM, outlined in Section 2, describes the site condition based on available site data. During the VRP process, VOPAK will calibrate the SCM based on additional findings.

If sufficient data is available, a three-dimensional rendering of the contaminant plume can be developed. Considering that the data pertaining to horizontal and vertical delineation were obtained from different monitoring dates, such a rendering was impractical for this site. VOPAK, however, included two-dimensional rendering of horizontal and vertical delineation in Section 2.2.

SECTION 3

# 3 CURRENT REMEDY

In 2003, VOPAK entered into a consent order with EPD to address soil and groundwater remediation. In 2005, EPD approved a CAP which included two important action items. The first action entailed prompt removal of the remaining source area contaminated soil to RRS standards. The second action entailed implementation of a groundwater remediation program to address dissolved CVOCs that were above RRS. The following sections summarize the soil and groundwater corrective actions.

## 3.1 SOIL REMEDIATION

According to the Final Soil Removal Closure Report and Compliance Status Report (CSR) Addendum (ERM, 2006), soil contaminated with CVOCs was successively removed from the site during three separate events in 2003, 2005, and 2006.

In May and June of 2003, approximately 54 cubic yards of soil was removed from a 320 square feet area along the northeast side of a containment dike with backhoe equipment around Tanks 23 through Tank 52. Soil samples collected after the excavation indicated that additional excavation was needed, as soils above RRS remained.

From January through March of 2005, approximately 1,950 tons of soil was removed from 180 linear feet of containment dike and 300 linear feet of drainage swale/railroad (paralleling the containment dike) along the northeast side and inside of the containment dike. Soil was excavated using both hand and machine methods to the depth of the water table, a depth ranging from 3 to 5 feet. Excavation was stopped where sidewall confirmation samples indicated that RRSs were met. A total of 18.5 tons of soil was sent to the Waste Management facility in Emelle, Alabama as hazardous waste and the remaining 1,931.5 tons was delivered to the Waste Management Superior Landfill in Savannah, Georgia.

In April 2006, approximately 108 tons of soil was removed from a 35-feet excavation along another railroad at a loading rack south of Tank 24. Much of the soil to the depth of the water table was excavated by hand due to presence of product lines and electrical conduits. The soil was delivered to the Waste Management Superior Landfill in Savannah, Georgia.

Upon completion of the 2006 soil removal activities, VOPAK submitted a report documenting the site activities. In a letter dated August 31, 2006, EPD concluded that soil at the site met the established RRS (EPD, 2006).

Analytical results from the confirmation samples obtained from PCE soil cleanup indicates that the cleanup also resulted in removal of BTEX contaminated soils since it was present within the same footprint as the PCE release. Therefore, RRS standards were achieved for BTEX concentrations at this location.

Soil remediation of both CVOC and BTEX concentrations are therefore complete in the PCE footprint.

## 3.2 GROUNDWATER REMEDIATION

The CAP established a 20-year schedule to remediate the groundwater contaminated with CVOCs (CAP). The groundwater remediation entailed enhanced bioremediation with natural attenuation. In May of 2006, VOPAK initiated the groundwater remediation program which entailed periodic injection of sodium, ethyl lactate, soybean oil, and pH buffer into 18 injection wells. The purpose of the injection program was to enhance reductive dechlorination of PCE. The injections were performed under an Underground Injection Control (UIC) Permit R-262, dated April 18, 2006, that is set to expire on April 18, 2011 (ERM, 2010). Currently the injections are conducted semi-annually.

## 3.3 PERFORMANCE OF THE GROUNDWATER REMEDIATION PROGRAM

The current groundwater remediation program entails enhanced bioremediation with natural attenuation to reduce the target contaminants. The recent annual CAP report (ERM, 2010) presents the results of the enhanced natural attenuation program. During the attenuation program, groundwater samples were collected from monitoring wells located within and outside the plume boundary. Analytical results from the samples are tabulated in Tables 2-1 and 2-2.

### 3.3.1 Bioremediation Rates

A table in ERM's CAP third annual report (ERM, 2010) claimed a 27% to 97% decrease in target contaminants. A closer examination of the data, however, indicates that the concentrations have fluctuated up and down since chemical injection was initiated. For instance, as shown in Figure 3-1, the PCE concentrations in PAN-MW-9 reduced from 14,000 to 80 ppb (a 99% decrease) between February 1991 and August 2005 from natural attenuation prior to an enhanced remedial approach. Subsequently, during the full-scale injection of chemicals, designed for enhance attenuation, the PCE actually increased to as high as 1,900 ppb, reversing the decreasing trend. A similar trend was observed in MW-22/22R (Figure 3-2) and MW-24/24R (Figure 3-3) in the vicinity. Also, as noted in the third annual report, both the pH and the oxygen reduction potential (ORP) values in several

wells within the plume have transformed to unfavorable levels indicating that the current remedial approach is ineffective at the site.

### 3.3.2 Indicator Parameters

Table 3-1 presents data of indicator parameters that serve as a reference to evaluate biodegradation potential of PCE over time. In reviewing the table, it is clear that the injection program was unable to maintain optimum pH (greater than 5), dissolved oxygen (DO) (less than 2 mg/L), and ORP (less than 0) levels that would favor reductive dechlorination. In a letter dated November 12, 2009, EPD recognized that the indicator parameters were unfavorable (EPD, 2009).

### 3.3.3 Statistical Analysis of PCE Trends

A Mann-Kendall test was performed on all monitoring wells to determine whether PCE concentrations were increasing or decreasing over time based on 80% and 90% levels of confidence. At both confidence levels, PCE was found to be decreasing or with no trend – indicating that the plume remained stable (ERM, 2010).

### 3.3.4 Plume Stability

Typically, dissolved contaminants tend to move with the groundwater flow. Considering that the groundwater seepage velocity is between 21 to 23 feet per year (CAP), it is interesting to note that the peak PCE plume illustrated in the sequential maps (Figure 2-9) has not migrated in the direction of ground water flow. The peak plume, therefore, appears to be stable and contained in the vicinity of Tanks 32 and 34.

## 3.4 FEASIBILITY OF CONTINUING THE CURRENT INJECTION PROGRAM

Based on the findings from Section 3.3, it appears that the current injection program is actually producing results that are counterproductive to bioremediation process. By contrast, as discussed in the aforementioned paragraph, the target contaminants had naturally attenuated prior to ERM's injection events. It is unclear whether the aerobic or anaerobic processes were the dominant attenuation force at the site. Even if the right environment is identified, lack of technology to deliver injected material to targeted zones presents significant challenges in enhanced attenuation. Nonetheless, attempts to create anaerobic environments when the subsurface is more conducive to aerobic environments and vice-versa lead to unexpected results.

In reviewing the comment letters in response to various progress reports prepared by the current site engineer, it is apparent that EPD has also raised numerous concerns about the effectiveness of the current remedial approach. Consequently, VOPAK does not recognize value in staying the current course for the next 20 years. VOPAK therefore recommends termination of the current injection program.

## 3.5 FEASIBILITY OF USING CHEMICAL OXIDATION AS AN ALTERNATIVE

Referring to Appendix I of the CAP, it is apparent that the 2001 chemical oxidation treatability study, was unable to demonstrate whether chemical oxidation would be successful at the site, due to certain sample preparation errors (ERM 2005). Furthermore, potassium permanganate can potentially sterilize the subsurface thereby retarding the natural bioremediation mechanisms that have been historically demonstrated at the site. In a letter dated February 13, 2004, EPD concurs that chemical oxidation is counterproductive to bioremediation (EPD, 2004). Consequently, VOPAK has developed a proposed action as outlined in Section 4.

SECTION 4

# 4 PROPOSED ACTION

Clearly, VOPAK has remediated all soil contamination that exceeded the RRS. Considering that the mass source material was removed in the form of soil excavation, the dissolved contamination in the groundwater is the primary media to be addressed. Also, based on VOPAK's evaluation (Section 3.3.1), natural attenuation had reduced the target contaminant levels in the groundwater at PAN-MW-9 by as much as 99%. After the injection program was initiated, however, the levels fluctuated to the extent that the PCE level rose to 1,900 ppb, reversing the decreasing trend. In addition, the current CAP requires VOPAK to meet the most stringent drinking water standards, which places an undue burden for an industrial site. It is therefore clear that an alternative course of action is necessary to address the prevailing groundwater contamination.

## 4.1 REMEDIAL STRATEGY

The prevailing enhance attenuation-based remedial program, involving chemical injection for reductive dechlorination, has been only partially successful. It appears that the primary impediment was lack of definition on whether aerobic, anaerobic, or facultative anaerobes were the driving forces in attenuating the COCs at the site. According to EPD, anaerobic enhancements have been ineffective in the coastal plain areas of Georgia (EPD, 2005). It is also possible that chemical amendments were unsustainable.

As evidenced by historic PCE degradation, in-situ bioremediation, and natural attenuation of CVOCs was apparent prior to the chemical injection events used for enhanced bioremediation. Additionally, the groundwater plume appears to be stable and contained. Similarly, VOPAK, therefore, believes that monitored natural attenuation (MNA) would be the most practical and cost-effective remedial strategy. VOPAK will utilize certain performance metrics to verify the effectiveness of MNA as the best remedial strategy. If the CVOC trends indicate an unacceptable time frame to reach remedial end points, during MNA implementation, VOPAK will implement contingency measures.

## 4.2 PROPOSED ACTION

The VRP encourages cost-effective allocation of limited resources to meet remedial objectives. In accordance with these objectives, VOPAK has developed the following conceptual remedial strategy.

1. Terminate the current injection program.
2. Perform a site-wide groundwater sampling event for COC analysis from wells located both within the PCE foot-print as well as wells located to the west that were historically used for BTEX monitoring.
3. Utilizing MNA as an interim remedial program, monitor the groundwater contaminants for a period of two years to reestablish the natural attenuation that was well in progress prior to injection activities.
4. In concurrence with EPD, VOPAK will select a fate and transport model to evaluate the effectiveness of the MNA program and compliance with site-specific RRS.
5. Based on the observed trends, VOPAK can make further decisions to continue with natural attenuation to reach remedial end points or utilize other enhanced techniques.
6. If enhancement is required, VOPAK will develop a microcosm test to evaluate the role of facultative anaerobes or other limiting factors. VOPAK can then implement alternative techniques to reach remedial end points within a period of 3 to 5 years as mandated by the EPD.

## 4.3 PERFORMANCE METRICS

To determine the effectiveness of the selected remedy, VOPAK will periodically perform a two-dimensional concentration/time analysis of the data from MNA monitoring and indicator parameters to address the following performance metrics:

- Is the plume stable or shrinking?
- Is the contaminant flux meeting remedial goals and is sustainable?
- Is the prevailing remedy cost-effective?
- What is the projected time frame to reach remedial end points?

### 4.3.1 MNA Monitoring

Wells within the contaminant plume will be utilized for MNA monitoring during the course of the VRP. These include wells currently utilized for MNA (MW-17/17R, MW-18/18R, PAN-MW-9, and MW-22/22R) and "performance monitoring wells" that include shallow wells PAN-MW-10, MW-16, MW-19, MW-23, MW-24/24R, MW-25, MW-26/26R, MW-27, and deep well MW-15. The deep monitor well MW-14 and shallow monitoring wells MW-20, MW-21, and MW-28, previously utilized for monitoring purposes, were determined to be "no longer present" based on a recent well inventory. As such, VOPAK will repair/re-drill monitoring wells MW-20, MW-21, and MW-28 for MNA/performance monitoring. Existing monitoring wells LAW-PZ-8 and MW-29,

previously not utilized, will be added for MNA/performance monitoring. Samples will be analyzed for VOCs and CVOCs. MNA sampling will be conducted as follows:

1. Samples will be collected from the wells on a quarterly basis.

2. Samples will be collected utilizing established low-flow sampling techniques.

### 4.3.2 Indicator Parameters

In addition to CVOC trend analysis, other indicator parameters such as pH, DO, ORP, and other inorganic parameters serve as important metrics in determining the change in site conditions and the effectiveness of the MNA program. Typically, data obtained from down-hole monitoring devices provide greater accuracy in defining such parameters than those obtained from traditional grab samples. As such, VOPAK plans to utilize down-hole data-logger devices in at least two wells to collect data on temperature, pH, DO, ORP, and conductivity. Because down-hole data loggers are greater than 1 inch in diameter, wells that are at least 2-inches in diameter are required. As such, VOPAK has selected PAN MW-9 (located within the plume) as a primary well and PAN MW-10 (located outside the plume) as a control well.

### 4.3.3 Fate and Transport Model

A two-dimensional analysis of contaminant trends and indicator parameters trends will be used to demonstrate whether the site is meeting the performance metrics. In addition, VOPAK will utilize a three-dimensional fate and transport model to evaluate the effect of dispersion, advection, sorption, and biodegradation. If the analysis is insufficient in addressing the performance metrics, VOPAK will consider statistical analysis to determine the performance metrics. If these tools indicate that the prevailing remedial strategy is unable to meet the performance metrics, contingency tasks will be initiated to develop an appropriate remedy.

### 4.3.4 Supplemental Data

After the horizontal and vertical delineation of the dissolved COCs is complete, VOPAK will consider collecting supplemental data from compound specific isotope analysis (CSIA), enzyme activity probes (EAP), or down-hole implants to demonstrate multiple lines of evidence on rates of degradation.

## 4.4 CONTINGENCY PLANNING

Since the groundwater contaminant plume is relatively stable, it appears that bioremediation may be a dominant natural attenuation mechanism at the site. If the performance metrics indicate that in-situ bioremediation alone is unable to attenuate the dissolved CVOCs, within a reasonable time frame, VOPAK will conduct a microcosm test to verify if enhancement is feasible. If enhancement is unfeasible and the contaminant plume is expanding beyond the point of demonstration, VOPAK will develop an alternative remedial strategy for EPD's approval.

## 4.5 UPDATED RRS

During the preparation of the VRP application, VOPAK computed Type 4 risk RRSs for groundwater based on non-residential properties using EPA's Risk Assessment Guidance for Superfund (RAGS) equations 1 and 2, in conformance with Georgia EPD Rule 391-3-19. In calculating RRS, VOPAK utilized the current COC associated with the PCE release and the latest regional screening level values (RSL) data published by the U.S. Environmental Protection Agency (EPA) in May 2010.

Table 4-1 presents the revised Type 4 RRS values and compares them with the current RRS values for both CVOCs and aromatic hydrocarbons based on the latest toxicity factors. Tables 4-2 through 4-5 include backup computations used in developing the revised Type 4 RRS values listed in Table 4-1. The revised RRS values will be used as groundwater standards in this VRP.

## 4.6 PROJECT CLOSURE

Upon completion of remedial activities, VOPAK will submit to the EPD a CSR establishing that the remedial endpoint was reached as per the VRP, and certify that the property is in compliance with the remedial standards. VOPAK understands that, at any time before the CSR is submitted, the EPD can terminate VOPAK's enrollment in the VRP, if the EPD determines that VOPAK failed to properly follow the Voluntary Remediation Plan requirements, or, that continued enrollment will lead to an "imminent or substantial danger to human health and the environment." If the EPD determines that the CSR is compliant with the "provisions, purposes, standards, and policies" of the VRP, the EPD will deem the site to be compliant with groundwater RRS.

SECTION 5

# 5 PROJECTED SCHEDULE

To accomplish the proposed corrective action tasks, EIC has developed a 4-Step milestone schedule. Figure 5-1 presents a Gantt Chart for VOPAK's Projected Milestone Schedule.

## 5.1 STEP 1 – MNA CALIBRATION

Within the first 12 months of participation in the program, VOPAK will conduct the following:

- Referring to the COCs, listed in Table 1-2, complete horizontal delineation of all COCs within the site during the first 12 months. Also conduct vertical delineation within 30 months. Based on historic data, off-site delineation is not required.
- Update all relevant Tables and Figures from CAP Annual Report with the most current data.
- Re-evaluate RRS values, based on site-specific risk factors.
- Conduct an investigation to identify the source(s) of BTEX contamination.
- Using down-hole data loggers evaluate the tidal and meteorological effects on groundwater levels in on-site wells.
- Using down-hole monitoring instrument collect in situ data on indicator parameters.
- Conduct Monitored Natural Attenuation sampling
- Analyze data collected, determine trends, refine horizontal and vertical delineation of the contaminant plume, and prepare reports to determine the most effective strategy for VOPAK to reach its remedial goals within a three to five year timeframe.
- Rehabilitate selected missing or damaged wells.
- Submit reports to the EPD following the VRP reporting requirements and the Projected Milestone Schedule.

## 5.2 STEP 2 – MNA TREND ANALYSIS

Within the first 24 months of participation in the program, VOPAK will conduct the following:

- Utilizing the MNA monitoring data, evaluate trends to determine if the CVOCs are progressively reducing such that the RRS will be met in a reasonable time frame.
- In concurrence with EPD, select a fate and transport model to evaluate compliance with site-specific RRS.
- If the site data concludes that MNA would be unable to reach remedial end points within the projected 60-month time schedule, implement contingency remedy.

## 5.3 STEP 3 – MNA CONFIRMATION

Within the first 30 months of participation in the program, VOPAK will conduct the following:

- Update the site conceptual model with information gained in Steps 1 and 2.
- If MNA appears unfeasible in meeting projected remedial goals, conduct a microcosm test to determine enhancements to increase the biodegradation potential of CVOCs. The results of the microcosm test may also lead to other alternative remedial technologies to reach remedial end points.
- Finalize the remediation plan.
- Provide a preliminary cost estimate for implementing remediation and associated tasks

## 5.4 STEP 4 - VRP CLOSURE

Within the first 60 months of participation in the program, VOPAK will conduct the following:

- Submit a CSR with mandatory certifications.
- Post-closure monitoring program.

SECTION 6

# 6 REFERENCES


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PCE REMEDIATION, VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# VRP APPLICATION (Revised)

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# TABLES

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## Table 1-1: Site Delineation Concentration Criteria for Soil

| Constituents, (µg/L) | CAS No. | Delineation Criteria |
|---|---|---|
| Tetrachloroethene | 127-18-4 | 180 |
| Trichloroethene | 79-01-6 | 130 |
| 1,2-Dichloroethene (cis) | 156-59-2 | 530 |
| Vinyl chloride | 75-01-4 | 40 |
| | | |
| Benzene | 71-43-2 | 20 |
| Ethylbenzene | 100-41-4 | 20,000 |
| Toluene | 108-88-3 | 14,400 |
| Xylenes (total) | 133-02-07 | 20,000 |

**Derived from Table 1, App III or Background, or Detection Limit (from GA EPD 391-3-19)**

## Table 1-2: Site Delineation Concentration Criteria for Groundwater

| Constituents, (µg/L) | CAS No. | Delineation Criteria |
|---|---|---|
| Tetrachloroethene | 127-18-4 | 5 |
| Trichloroethene | 79-01-6 | 5 |
| 1,2-Dichloroethene (cis) | 156-59-2 | 70 |
| Vinyl chloride | 75-01-4 | 2 |
| | | |
| Benzene | 71-43-2 | 5 |
| Ethylbenzene | 100-41-4 | 700 |
| Toluene | 108-88-3 | 1,000 |
| Xylenes (total) | 133-02-07 | 10,000 |

**Derived from Table 1, App III or Background, or Detection Limit (from GA EPD 391-3-19)**

## Table 1-3: Current Risk Reduction Standards (RRS) Based on Approved CAP

| Constituents | CAS No. | Ground Water, µg/L | |
|---|---|---|---|
| | | Non-Residential | |
| | | Type 3 | Type 4 |
| Tetrachloroethene | 127-18-4 | **5** | NC |
| Trichloroethene | 79-01-6 | **5** | NC |
| 1,2-Dichloroethene (cis) | 156-59-2 | None | **1,020** |
| Vinyl chloride | 75-01-4 | **2** | NC |
| | | | |
| Benzene | 71-43-2 | 5 | **15** |
| Ethylbenzene | 100-41-4 | 700 | **3,750** |
| Toluene | 108-88-3 | 1,000 | **2,030** |
| Xylenes (total) | 133-02-07 | **10,000** | 595 |

**Note:**

*Applicable RRS Standards are in bold and highlighted.

*Table 2-1*
*Chemical Concentrations of Volatile Organic Compounds in Ground Water Samples (CVOCs)* *(Modified from ERM, 2010)*
*Vopak*
*Savannah, GA*

| | Units | Method | Type 3 or 4 RRS | PAN-MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/ MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-28 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/l | 624 | 5. | 14,000. | 37. | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/l | 600 | | 9,200. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/l | 8260 | | 3,040. | NS | NR | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/l | 8260 | | 8,100. | 10. | 50/500 | 33. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/l | 8021 | | 7,400. | < 1. | < 1,000. | < 1. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/l | 8260 | | NS | < 5. | NS | < 5. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/l | 8260 | | 9,100. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/l | 8260 | | 8,000. | < 1. | < 250. | < 1. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/l | 8260 | | 9,800. | < 5. | < 1,200. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | 8,700. | < 5. | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 400. | < 5. | 2,400. | < 5. | NI | NI |
| Oct-02 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | NI |
| Aug-03 | ug/l | 8260 | | 2,400. | < 5. | NS | < 5. | 5.3 | < 5. | < 5. | NS | < 5. | < 5. | NS | 1,000. | < 5. | 97. | NS | 300. | < 5. | NS | NI |
| Oct-03 | ug/l | 8260 | | NS | NS | 70 J | NS | NS | NS | NS | < 1. | NS | NS | 120. | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | ug/l | 8260 | | 6,900. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | 7,600. | 760. | NS | NS | NS | NS | NS | NI |
| Jul-04 | ug/l | 8260 | | 3,200. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | 7,000. | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | ug/l | 8260 | | 6,000. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | 7,200. | NS | NS | NS | NS | NS | NS | NI |
| May-05 | ug/l | 8261 | | 1,100. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2. | 5,700. | NS | NS | NS | 120. | NS | NS | NI |
| Aug-05 | ug/l | 8260 | | 80. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | 2,400. | NS | NS | NS | 420. | NS | NS | NI |
| Jun-06 | ug/l | 8260 | | 1,600. | NS | NS | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | 12. | 680. | NS | 1,300. | NS | NS | NS | NS | NI |
| Oct-06 | ug/L | 8260 | | 1,500. | NS | 300. | < 2. | < 2. | < 2. | < 5. | < 5. | NS | NS | < 2. | 2,600. | NS | 580. | NS | < 2. | NS | NS | 1,500. |
| Dec-06 | ug/l | 8260 | | 1,900. | NS | 240. | < 2. | 12. | < 2. | < 2. | < 2. | NS | NS | < 2. | 3,200. | NS | 1,100. | NS | 6. | NS | NS | NS |
| Mar-07 | ug/l | 8260 | | 600. | NS | < 250. | < 5. | < 5. | 9. | < 5. | < 5. | NS | NS | < 5. | 3,400. | NS | 130. | NS | < 5. | NS | NS | NS |
| Sep-07 | ug/l | 8260 | | 1,500. | < 2. | 240. | < 2. | 3. | < 2. | < 2. | < 2. | < 2. | NS | < 2. | NS | < 2. | 62. | < 2. | < 2. | 3. | NS | 2,300. |
| May-08 | ug/l | 8260 | | 510. | NS | 380. | < 2. | NS | < 2. | < 2. | < 2. | NS | NS | NS | 6,900. | NS | 130. | NS | 5. | NS | NS | NS |
| Dec-08 | ug/l | 8260 | | 540. | NS | 570. | < 5. | NS | < 5. | < 5. | < 5. | NS | NS | NS | 4,400. | NS | 110. | NS | < 5. | NS | NS | NS |
| Apr-09 | ug/l | 8260 | | 460. | < 5. | 510. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | 1,900. | < 5. | 93. | < 5. | < 5. | < 5. | NS | 1,100. |
| Sep-09 | ug/l | 8260 | | 440. | NS | 99. | < 2. | NS | < 2. | < 2. | < 2. | NS | NS | NS | 3,000. | NS | 57. | NS | < 2. | NS | NS | NS |
| **Trichloroethene** | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/l | 624 | 5. | 350. | < 5. | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/l | 600 | | 430. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/l | 8260 | | < 2,500. | NS | NR | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/l | 8260 | | NR | NR | NR | NR | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/l | 8021 | | NR | NR | NR | NR | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/l | 8260 | | NS | < 5. | NS | < 5. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/l | 8260 | | < 1,000. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/l | 8260 | | 360. | < 1. | < 250. | < 1. | NS | < 1. | < 1. | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/l | 8260 | | 260J | < 5. | < 1,200. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | 900. | < 5. | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 95. | < 5. | 100. | < 5. | NI | NI |
| Oct-02 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | NI |
| Aug-03 | ug/l | 8260 | | < 500. | < 5. | NS | < 5. | 14 | < 5. | < 5. | NS | < 5. | < 5. | NS | 480. | < 5. | 51. | NS | 14. | < 5. | NS | NI |
| Oct-03 | ug/l | 8260 | | NS | NS | 18 J | NS | NS | NS | NS | < 1. | NS | NS | 1.8 | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | ug/l | 8260 | | 440. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | 700. | 2,300. | NS | NS | NS | NS | NS | NI |
| Jul-04 | ug/l | 8260 | | 270. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | 71. | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | ug/l | 8260 | | 360. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | < 250. | NS | NS | NS | NS | NS | NS | NI |
| May-05 | ug/l | 8261 | | 320. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2. | 220. | NS | NS | NS | 8. | NS | NS | NI |
| Aug-05 | ug/l | 8260 | | 9. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | 47. | NS | NS | NS | 22. | NS | NS | NI |
| Jun-06 | ug/l | 8260 | | 480. | NS | NS | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | 71. | NS | 180. | NS | NS | NS | NS | NI |
| Oct-06 | ug/L | 8260 | | 300. | NS | < 100. | < 2. | < 2. | 12. | < 5. | < 5. | NS | NS | < 2. | < 130. | NS | 150. | NS | 2. | NS | NS | 340. |
| Dec-06 | ug/l | 8260 | | 640. | NS | 72. | < 2. | 12. | 24. | < 2. | < 2. | NS | NS | < 2. | 60. | NS | 680. | NS | 4. | NS | NS | NS |
| Mar-07 | ug/l | 8260 | | 370. | NS | < 250. | < 5. | < 5. | 71. | < 5. | < 5. | NS | NS | < 5. | < 130. | NS | 200. | NS | < 5. | NS | NS | NS |
| Sep-07 | ug/l | 8260 | | 450. | < 2. | < 100. | < 2. | 4. | < 2. | < 2. | < 2. | < 2. | NS | < 2. | NS | < 2. | 37. | < 2. | < 2. | 2. | NS | 320. |
| May-08 | ug/l | 8260 | | 190. | NS | 34. | < 2. | NS | < 2. | < 2. | < 2. | NS | NS | NS | 89. | NS | 24. | NS | < 2. | NS | NS | NS |
| Dec-08 | ug/l | 8260 | | 150. | NS | 52. | < 5. | NS | < 5. | < 5. | < 5. | NS | NS | NS | 100. | NS | 25. | NS | < 5. | NS | NS | NS |
| Apr-09 | ug/l | 8260 | | 150. | < 5. | < 250. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | 88. | < 5. | 22. | < 5. | < 5. | < 5. | NS | 320. |
| Sep-09 | ug/l | 8260 | | 150. | NS | 34. | < 2. | NS | 4.1 | < 2. | < 2. | NS | NS | NS | 88. | NS | 20. | NS | < 2. | NS | NS | NS |

*Table 2-1*
*Chemical Concentrations of Volatile Organic Compounds in Ground Water Samples (CVOCs)* *(Modified from ERM, 2010)*
*Vopak*
*Savannah, GA*

| | Units | Method | Type 3 or 4 | PAN-MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/ MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-28 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **cis,1-2,dichloroethene** | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/l | 624 | 1,020. | < 5. | < 5. | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/l | 600 | | < 5. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/l | 8260 | | < 2,500. | NS | NR | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/l | 8260 | | NR | NR | NR | NR | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/l | 8021 | | NR | NR | NR | NR | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/l | 8260 | | NS | < 2. | NS | < 2. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/l | 8260 | | < 400. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/l | 8260 | | 130. | < 1. | **1,800.** | < 1. | NS | 110. | < 1. | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/l | 8260 | | 100J | < 5. | **3,900.** | < 5. | < 5. | 41. | < 5. | < 5. | < 5. | < 5. | < 5. | **3,100.** | < 5. | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 240. | < 5. | **1,100.** | < 5. | NI | NI |
| Oct-02 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | NI |
| Aug-03 | ug/l | 8260 | | < 500. | < 5. | NS | < 5. | < 5. | 33 | < 5. | NS | < 5. | < 5. | NS | 930. | < 5. | 100. | NS | 180. | < 5. | NS | NI |
| Oct-03 | ug/l | 8260 | | NS | NS | 350. | NS | NS | NS | NS | < 1. | NS | NS | < 1. | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | ug/l | 8260 | | 300. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | **2,300.** | NS | NS | NS | NS | NS | NS | NI |
| Jul-04 | ug/l | 8260 | | 170. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | 310. | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | ug/l | 8260 | | < 250. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | 610. | NS | NS | NS | NS | NS | NS | NI |
| May-05 | ug/l | 8261 | | 220. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2. | 840. | NS | NS | NS | 120. | NS | NS | NI |
| Aug-05 | ug/l | 8260 | | 5. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | 240. | NS | NS | NS | 210. | NS | NS | NI |
| Jun-06 | ug/l | 8260 | | 550. | NS | NS | < 5. | < 5. | 36. | < 5. | < 5. | NS | NS | < 5. | **3,300.** | NS | 500. | NS | NS | NS | NS | NI |
| Oct-06 | ug/L | 8260 | | 990. | NS | **31,000.** | < 2. | < 2. | 120. | < 5. | < 5. | NS | NS | 2. | 490. | NS | 590. | NS | **2,800.** | NS | NS | **1,500.** |
| Dec-06 | ug/l | 8260 | | 600. | NS | **12,000.** | < 2. | 4. | 120. | < 2. | < 2. | NS | NS | < 2. | 480. | NS | 990. | NS | **5,100.** | NS | NS | NS |
| Mar-07 | ug/l | 8260 | | 680. | NS | **16,000.** | < 5. | < 5. | 320. | < 5. | < 5. | NS | NS | < 5. | 730. | NS | 770. | NS | **2,600.** | NS | NS | NS |
| Sep-07 | ug/l | 8260 | | 880. | < 2. | **18,000.** | < 2. | 3. | 260. | < 2. | < 2. | < 2. | NS | < 2. | NS | < 2. | 820. | < 2. | 240. | 350. | NS | **1,700.** |
| May-08 | ug/l | 8260 | | 590. | NS | **6,900.** | < 2. | NS | 61. | < 2. | < 2. | NS | NS | NS | 930. | NS | 82. | NS | 410. | NS | NS | NS |
| Dec-08 | ug/l | 8260 | | 500. | NS | **4,600.** | < 5. | NS | 60. | < 5. | < 5. | NS | NS | NS | **2,100.** | NS | 340. | NS | 14. | NS | NS | NS |
| Apr-09 | ug/l | 8260 | | 780. | < 5. | < 250. | < 5. | < 5. | 78. | < 5. | < 5. | < 5. | NS | NS | **1,700.** | < 5. | 240. | < 5. | 200. | 40. | NS | **2,100.** |
| Sep-09 | ug/l | 8260 | | 730. | NS | **4,500.** | < 2. | NS | 78. | < 2. | < 2. | NS | NS | NS | **1,000.** | NS | 120. | NS | 150. | NS | NS | NS |
| **trans,1-2,dichloroethene** | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/l | 624 | 2,040. | < 5. | < 5. | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/l | 600 | | < 5. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/l | 8260 | | NR | NS | NR | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/l | 8260 | | NR | NS | NR | NR | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/l | 8021 | | NR | NS | NR | NR | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/l | 8260 | | NS | < 2. | NS | < 2. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/l | 8260 | | < 1,000. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/l | 8260 | | < 100. | < 1. | < 250. | < 1. | NS | < 1. | < 1. | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/l | 8260 | | < 500. | < 5. | < 1,200. | < 5. | < 5. | 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 500. | < 5. | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 12. | < 5. | 1,100. | < 5. | NI | NI |
| Oct-02 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-03 | ug/l | 8260 | | < 500. | < 5. | NS | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | NS | < 250. | < 5. | < 10. | NS | < 50. | < 5. | NS | NI |
| Oct-03 | ug/l | 8260 | | NS | NS | < 100. | NS | NS | NS | NS | < 1. | NS | NS | | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | ug/l | 8260 | | < 25. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | 7. | NS | NS | NS | NS | NS | NS | NI |
| Jul-04 | ug/l | 8260 | | < 5. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | < 1. | < 5. | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | ug/l | 8260 | | < 250. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | < 250. | NS | NS | NS | NS | NS | NS | NI |
| May-05 | ug/l | 8261 | | NR | NS | NS | NS | NS | NS | NS | NS | NS | NS | NR | NR | NS | NS | NS | NR | NS | NS | NI |
| Aug-05 | ug/l | 8260 | | NR | NS | NS | NS | NS | NS | NS | NS | NS | NS | NR | NR | NS | NS | NS | NR | NS | NS | NI |
| Jun-06 | ug/l | 8260 | | < 100. | NS | NS | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | < 130. | NS | < 5. | NS | NS | NS | NS | NI |
| Oct-06 | ug/L | 8260 | | < 100. | NS | 910. | < 2. | < 2. | < 2. | < 5. | < 5. | NS | NS | < 2. | < 130. | NS | < 20. | NS | 44. | NS | NS | 10. |
| Dec-06 | ug/l | 8260 | | 7. | NS | 210. | < 2. | < 2. | 3. | < 2. | < 2. | NS | NS | < 2. | 19. | NS | 10. | NS | 89. | NS | NS | NS |
| Mar-07 | ug/l | 8260 | | < 100. | NS | < 250. | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | < 130. | NS | 9. | NS | 24. | NS | NS | NS |
| Sep-07 | ug/l | 8260 | | < 40. | < 2. | 220. | < 2. | < 2. | < 2. | < 2. | < 2. | < 2. | NS | < 2. | NS | < 2. | 4. | < 2. | 3. | < 2. | NS | 15. |
| May-08 | ug/l | 8260 | | < 2. | NS | 12. | < 2. | NS | < 2. | < 2. | < 2. | NS | NS | NS | 4. | NS | < 2. | NS | < 2. | NS | NS | NS |
| Dec-08 | ug/l | 8260 | | < 5. | NS | 25. | < 5. | NS | < 5. | < 5. | < 5. | NS | NS | NS | 6. | NS | < 5. | NS | < 5. | NS | NS | NS |
| Apr-09 | ug/l | 8260 | | < 100. | < 5. | < 250. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | 12. | < 5. | < 5. | < 5. | < 5. | NS | NS | 16. |
| Sep-09 | ug/l | 8260 | | < 10. | NS | 61. | < 2. | NS | < 2. | < 2. | < 2. | NS | NS | NS | 8.2 | NS | < 2. | NS | < 2. | NS | NS | NS |

*Table 2-1*
*Chemical Concentrations of Volatile Organic Compounds in Ground Water Samples (CVOCs)* *(Modified from ERM, 2010)*
*Vopak*
*Savannah, GA*

| | Units | Method | Type 3 or 4 | PAN-MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/ MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-28 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vinyl Chloride** | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/l | 624 | 2. | < 30. | < 30. | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/l | 600 | | < 30. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/l | 8260 | | < 2,500. | NS | NR | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/l | 8260 | | < 500. | < 5. | **350/< 500** | < 5. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/l | 8021 | | < 250. | < 1. | < 1,000. | < 1. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/l | 8260 | | NS | < 2. | NS | < 2. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/l | 8260 | | < 400. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/l | 8260 | | < 100. | < 1. | **890.** | < 1. | NS | **2.2** | < 1. | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/l | 8260 | | < 200. | < 2. | **670.** | < 2. | < 2. | < 2. | < 2. | < 2. | < 2. | < 2. | < 2. | **380.** | < 2. | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | **50.** | < 10. | **210.** | < 2. | NI | NI |
| Oct-02 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2. | NI |
| Aug-03 | ug/l | 8260 | | < 200. | < 2. | NS | < 2. | NS | < 2. | < 2. | NS | < 2. | < 2. | NS | < 100. | < 2. | **22.** | NS | **38.** | < 2. | NS | NI |
| Oct-03 | ug/l | 8260 | | NS | NS | **120.** | NS | NS | NS | NS | < 1. | NS | NS | < 1. | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | ug/l | 8260 | | **35.** | NS | NS | NS | NS | NS | < 2. | < 2. | NS | NS | NS | **210.** | NS | NS | NS | NS | NS | NS | NI |
| Jul-04 | ug/l | 8260 | | **14.** | NS | NS | NS | NS | NS | < 2. | < 2. | NS | NS | NS | 36. | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | ug/l | 8260 | | < 100. | NS | NS | NS | NS | NS | < 2. | < 2. | NS | NS | NS | < 100. | NS | NS | NS | NS | NS | NS | NI |
| May-05 | ug/l | 8261 | | < 100. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2. | < 100. | NS | NS | NS | **28.** | NS | NS | NI |
| Aug-05 | ug/l | 8260 | | < 2. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2. | **37.** | NS | NS | NS | **47.** | NS | NS | NI |
| Jun-06 | ug/l | 8260 | | < 40. | NS | NS | 2. | 2. | 2. | < 2. | < 2. | NS | NS | 2. | < 140. | NS | **49.** | NS | NS | NS | NS | NI |
| Oct-06 | ug/L | 8260 | | < 40. | NS | **1,700.** | < 2. | < 2. | **4.** | < 2. | < 2. | NS | NS | < 2. | **89.** | NS | **33.** | NS | **330.** | NS | NS | **24.** |
| Dec-06 | ug/l | 8260 | | **23.** | NS | **630.** | < 2. | < 2. | **8.** | < 2. | < 2. | NS | NS | < 2. | **100.** | NS | **68.** | NS | **560.** | NS | NS | NS |
| Mar-07 | ug/l | 8260 | | < 40. | NS | **1,200.** | < 2. | < 2. | **25.** | < 2. | < 2. | NS | NS | < 2. | **100.** | NS | **17.** | NS | **580.** | NS | NS | NS |
| Sep-07 | ug/l | 8260 | | < 40. | < 2. | **1,200.** | < 2. | < 2. | **63.** | < 2. | < 2. | < 2. | NS | < 2. | NS | < 2. | **20.** | < 2. | **240.** | **5.** | NS | **64.** |
| May-08 | ug/l | 8260 | | **18.** | NS | **660.** | < 2. | NS | **53.** | < 2. | < 2. | NS | NS | NS | **270.** | NS | **9.** | NS | **83.** | NS | NS | NS |
| Dec-08 | ug/l | 8260 | | **25.** | NS | **360.** | < 2. | NS | **49.** | < 2. | < 2. | NS | NS | NS | **300.** | NS | **12.** | NS | **19.** | NS | NS | NS |
| Apr-09 | ug/l | 8260 | | < 40. | < 2. | **560.** | < 2. | < 2. | **82.** | < 2. | < 2. | < 2. | NS | NS | **280.** | < 2. | **18.** | < 5. | **76.** | **22.** | NS | **74.** |
| Sep-09 | ug/l | 8260 | | **49.** | NS | **470.** | < 2. | NS | **69.** | < 2. | < 2. | NS | NS | NS | **220.** | NS | **47.** | NS | **62.** | NS | NS | NS |

Value exceeds a risk reduction standard
NR = not reported by the lab
NS = not sampled
NI = not installed
< = less than indicated value 0.950054289
< 5/< 500 = sample was analyzed twice
J this is an estimated value that is above the method detection limit but below the practical quantitation limit.
The sample denoted MW-10 on 12/18/98 is believed to have been collected from MW-9, I.e. the two samples were mislabeled. This table shows what is believed to be correct.
Risk reduction standard, the higher of the Type 3 or 4 from Table 2 of Risk Reduction Standards dated August 13, 2001
LAW-PZ-8 was found damaged during June 2006 sampling event and was not sampled. It was replaced by LAW-PZ-8R on 10/9/2006.
MW-17 was replaced by MW-17R on 10/10/2006.
MW-26 was replaced by MW-26R on 10/9/2006.

*Table 2-2*
*Chemical Concentrations of Volatile Organic Compounds in Ground Water Samples (VOCs)* *(Modified from ERM, 2010)*
*Vopak*
*Savannah, GA*

| | Units | Method | Type 3 or 4 RRS | PAN-MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/ MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-28 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Benzene** | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/l | 8260 | 15.1 | < 250. | < 1. | < 1,000. | < 1. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/l | 8260 | | < 100. | < 1. | < 250. | < 1. | NS | < 1. | < 1. | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/l | 8260 | | < 500. | < 5. | **69J** | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 500. | < 5. | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 12. | < 5. | < 100. | < 5. | NI | NI |
| Oct-02 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | NI |
| Aug-03 | ug/l | 8260 | | < 500. | < 5. | NS | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | NS | < 250 | < 5. | **52.** | NS | NS | < 5. | NS | NI |
| Oct-03 | ug/l | 8260 | | NS | NS | **42 J** | NS | NS | NS | NS | < 1. | NS | NS | < 1. | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | ug/l | 8260 | | < 50. | NS | NS | NS | NS | NS | < 10. | < 10. | NS | NS | NS | < 10. | NS | NS | NS | NS | NS | NS | NI |
| Jul-04 | ug/l | 8260 | | < 10. | NS | NS | NS | NS | NS | < 10. | < 10. | NS | NS | NS | < 10. | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | ug/l | 8260 | | < 500. | NS | NS | NS | NS | NS | < 10. | < 10. | NS | NS | NS | < 500. | NS | NS | NS | NS | NS | NS | NI |
| May-05 | ug/l | 8261 | | < 100. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2. | < 100. | NS | NS | NS | **17.** | NS | NS | NI |
| Aug-05 | ug/l | 8260 | | < 2. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | **35.** | NS | NS | NI |
| Jun-06 | ug/l | 8260 | | < 200. | NS | NS | < 10. | < 10. | < 10. | < 10. | < 10. | NS | NS | < 10. | < 250. | NS | 11. | NS | NS | NS | NS | NI |
| Oct-06 | ug/L | 8260 | | < 200. | NS | **190.** | < 2. | < 2. | < 2. | < 10. | < 10. | NS | NS | < 2. | < 250. | NS | < 20. | NS | **16.** | NS | NS | 2. |
| Dec-06 | ug/l | 8260 | | < 2. | NS | **47.** | < 2. | < 2. | < 2. | < 2. | < 2. | NS | NS | < 2. | < 2. | NS | 13. | NS | **20.** | NS | NS | NS |
| Mar-07 | ug/l | 8260 | | < 200. | NS | < 500. | < 10. | < 10. | < 10. | < 10. | < 10. | NS | NS | < 10. | < 250. | NS | 14. | NS | **17.** | NS | NS | NS |
| Sep-07 | ug/l | 8260 | | < 40. | < 2. | **310.** | < 2. | < 2. | < 2. | < 2. | < 2. | < 2. | NS | < 2. | NS | < 2. | 12. | < 2. | 9. | < 2. | NS | 3. |
| May-08 | ug/l | 8260 | | < 2. | NS | **450.** | NS | NS | < 2. | < 2. | < 2. | NS | NS | NS | 2. | NS | 16. | NS | 12. | NS | NS | NS |
| Dec-08 | ug/l | 8260 | | < 5. | NS | **290.** | < 5. | NS | < 5. | < 5. | < 5. | NS | NS | NS | < 5. | NS | 15. | NS | < 5. | NS | NS | NS |
| Apr-09 | ug/l | 8260 | | < 100. | < 5. | **320.** | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | < 5. | 12. | < 5. | 14. | < 5. | NS | < 5. |
| Sep-09 | ug/l | 8260 | | < 10. | NS | **390.** | < 2. | NS | < 2. | < 2. | < 2. | NS | NS | NS | 4.1 | NS | 10. | NS | 4.4 | NS | NS | NS |
| **Ethylbenzene** | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/l | 8260 | 3,750. | 2,400. | < 1. | **4,300.** | 2.9 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/l | 8260 | | **3,900.** | < 1. | **5,100.** | < 1. | NS | < 1. | < 1. | NI | NI | NI | NI | IN | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/l | 8260 | | 3,700. | < 5. | **5,700.** | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | 600. | < 5. | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 12. | < 5. | < 100. | < 5. | NI | NI |
| Oct-02 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | NI |
| Aug-03 | ug/l | 8260 | | 1,100. | < 5. | NS | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | NS | < 250. | < 5. | < 10. | NS | NS | < 5. | NS | NI |
| Oct-03 | ug/l | 8260 | | NS | NS | 3,700. | NS | NS | NS | NS | 2. | NS | NS | 4.2 | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | ug/l | 8260 | | 3,100. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | 2,300. | NS | NS | NS | NS | NS | NS | NI |
| Jul-04 | ug/l | 8260 | | **8,400.** | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | 14. | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | ug/l | 8260 | | 2,200. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | < 250. | NS | NS | NS | NS | NS | NS | NI |
| May-05 | ug/l | 8261 | | **6,000.** | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2. | < 100. | NS | NS | NS | < 2. | NS | NS | NI |
| Aug-05 | ug/l | 8260 | | 60. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | < 5. | NS | NS | NI |
| Jun-06 | ug/l | 8260 | | 730. | NS | NS | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | 150. | NS | 5. | NS | NS | NS | NS | NI |
| Oct-06 | ug/L | 8260 | | 990. | NS | **6,100.** | < 2. | < 2. | < 2. | < 5. | < 5. | NS | NS | < 2. | < 130. | NS | < 20. | NS | 380. | NS | NS | 67. |
| Dec-06 | ug/l | 8260 | | 1,800. | NS | 3,000. | < 2. | < 2. | < 2. | 7. | < 2. | NS | NS | < 2. | 20. | NS | 10. | NS | 1,500. | NS | NS | NS |
| Mar-07 | ug/l | 8260 | | **4,500.** | NS | **5,000.** | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | < 130. | NS | < 5. | NS | 1,100. | NS | NS | NS |
| Sep-07 | ug/l | 8260 | | 1,900. | < 2. | **4,400.** | < 2. | < 2. | 2. | < 2. | < 2. | < 2. | NS | < 2. | NS | < 2. | 2. | < 2. | 71. | < 2. | NS | 63. |
| May-08 | ug/l | 8260 | | **8,800.** | NS | **6,500.** | < 2. | NS | 6. | 4. | 2. | NS | NS | NS | 10. | NS | < 2. | NS | 260. | NS | NS | NS |
| Dec-08 | ug/l | 8260 | | **3,900.** | NS | **4,900.** | < 5. | NS | < 5. | < 5. | < 5. | NS | NS | NS | 7. | NS | < 5. | NS | 23. | NS | NS | NS |
| Apr-09 | ug/l | 8260 | | **2,400.** | < 5. | **3,800.** | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | 11. | < 5. | < 5. | < 5. | 310. | < 5. | NS | 35 |
| Sep-09 | ug/l | 8260 | | 2,300. | NS | **4,100.** | < 2. | NS | < 2. | < 2. | < 2. | NS | NS | NS | 9.2 | NS | < 2. | NS | 63. | NS | NS | NS |

*Table 2-2*
*Chemical Concentrations of Volatile Organic Compounds in Ground Water Samples (VOCs)* *(Modified from ERM, 2010)*
*Vopak*
*Savannah, GA*

| | Units | Method | Type 3 or 4 | PAN-MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/ MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-28 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Toluene** | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/l | 8260 | 2,030. | < 250. | < 1. | < 1,000. | < 1. | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/l | 8260 | | < 100. | < 1. | < 250. | < 1. | NS | < 1. | < 1. | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/l | 8260 | | < 500. | < 5. | 220J | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | < 500. | < 5. | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 12. | < 5. | < 100. | < 5. | NI | NI |
| Oct-02 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | NI |
| Aug-03 | ug/l | 8260 | | < 500. | < 5. | NS | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | NS | < 250 | < 5. | < 10. | NS | NS | < 5. | NS | NI |
| Oct-03 | ug/l | 8260 | | NS | NS | < 100. | NS | NS | NS | NS | < 1. | NS | NS | < 1. | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | ug/l | 8260 | | < 25. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | < 5. | NS | NS | NS | NS | NS | NS | NI |
| Jul-04 | ug/l | 8260 | | < 5. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | < 5. | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | ug/l | 8260 | | < 250. | NS | NS | NS | NS | NS | 5 | < 5. | NS | NS | NS | < 250. | NS | NS | NS | NS | NS | NS | NI |
| May-05 | ug/l | 8261 | | < 100. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2. | < 100. | NS | NS | NS | < 2. | NS | NS | NI |
| Aug-05 | ug/l | 8260 | | < 5. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | < 5. | NS | NS | NI |
| Jun-06 | ug/l | 8260 | | < 100. | NS | NS | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | < 130. | NS | < 5. | NS | NS | NS | NS | NI |
| Oct-06 | ug/L | 8260 | | < 100. | NS | 1,200. | < 2. | < 2. | < 2. | 8. | < 5. | NS | NS | < 2. | < 130. | NS | < 20. | NS | 45. | NS | NS | < 2. |
| Dec-06 | ug/l | 8260 | | < 2. | NS | 410. | < 2. | < 2. | < 2. | < 2. | < 2. | NS | NS | < 2. | < 2. | NS | < 2. | NS | 83. | NS | NS | NS |
| Mar-07 | ug/l | 8260 | | < 100. | NS | 760. | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | < 130. | NS | < 5. | NS | 45. | NS | NS | NS |
| Sep-07 | ug/l | 8260 | | < 40. | < 2. | 720. | < 2. | < 2. | < 2. | < 2. | < 2. | < 2. | NS | < 2. | NS | < 2. | < 2. | < 2. | 4. | < 2. | NS | < 2. |
| May-08 | ug/l | 8260 | | 3. | NS | 330. | < 2. | NS | < 2. | < 2. | < 2. | NS | NS | NS | < 2. | NS | < 2. | NS | 10. | NS | NS | NS |
| Dec-08 | ug/l | 8260 | | < 5. | NS | 290. | < 5. | NS | < 5. | < 5. | < 5. | NS | NS | NS | < 5. | NS | < 5. | NS | < 5. | NS | NS | NS |
| Apr-09 | ug/l | 8260 | | < 100. | < 5. | 280. | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | < 5. | < 5. | < 5. | 21. | < 5. | NS | < 5. |
| Sep-09 | ug/l | 8260 | | < 10. | NS | 260. | < 2. | NS | < 2. | < 2. | < 2. | NS | NS | NS | < 2. | NS | < 2. | NS | 3.8 | NS | NS | NS |
| **Xylenes** | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/l | 8260 | 10,000. | 5,200. | < 1. | 5,600. | 1.4 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/l | 8260 | | 8,600. | < 2. | **59,000.** | < 2. | NS | < 2. | < 2. | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/l | 8260 | | 8,500. | < 10. | **64,000.** | < 10. | < 10. | < 10. | < 10. | < 10. | < 10. | < 10. | < 10. | 83J | < 10. | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 25. | < 10. | < 200. | < 10. | NI | NI |
| Oct-02 | ug/l | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 10. | NI |
| Aug-03 | ug/l | 8260 | | 2,000. | < 10. | NS | < 10. | < 10. | < 10. | < 10. | NS | NS | < 10. | NS | < 500. | < 10. | < 20. | NS | NS | < 10. | NS | NI |
| Oct-03 | ug/l | 8260 | | NS | NS | **42,000.** | NS | NS | NS | NS | 22 | NS | NS | 38. | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | ug/l | 8260 | | 7,300. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | < 50. | NS | NS | NS | NS | NS | NS | NI |
| Jul-04 | ug/l | 8260 | | **22,000.** | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | < 22. | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | ug/l | 8260 | | 5,100. | NS | NS | NS | NS | NS | < 5. | < 5. | NS | NS | NS | < 250. | NS | NS | NS | NS | NS | NS | NI |
| May-05 | ug/l | 8261 | | **16,000.** | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | < 250. | NS | NS | NS | < 5. | NS | NS | NI |
| Aug-05 | ug/l | 8260 | | 150. | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5. | 10. | NS | NS | NS | 6. | NS | NS | NI |
| Jun-06 | ug/l | 8260 | | 1,800. | NS | NS | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | < 130. | NS | 28. | NS | NS | NS | NS | NI |
| Oct-06 | ug/L | 8260 | | 2,600. | NS | **84,000.** | < 5. | < 5. | 7. | < 5. | < 5. | NS | NS | < 5. | < 130. | NS | < 50. | NS | 2,700. | NS | NS | 51. |
| Dec-06 | ug/l | 8260 | | 4,900. | NS | **41,000.** | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | 18. | NS | 35. | NS | **13,000.** | NS | NS | NS |
| Mar-07 | ug/l | 8260 | | **12,000.** | NS | **70,000.** | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | < 5. | < 130. | NS | 12. | NS | 6,900. | NS | NS | NS |
| Sep-07 | ug/l | 8260 | | 5,400. | < 5. | **54,000.** | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | NS | < 5. | NS | < 5. | 7. | < 5. | 250. | < 5. | NS | 57. |
| May-08 | ug/l | 8260 | | **24,000.** | NS | **94,000.** | < 5. | NS | < 5. | 27. | 16. | NS | NS | NS | 26. | NS | 11. | NS | 1,300. | NS | NS | NS |
| Dec-08 | ug/l | 8260 | | **11,000.** | NS | **55,000.** | < 5. | NS | < 5. | < 5. | < 5. | NS | NS | NS | 12. | NS | < 5. | NS | 120. | NS | NS | NS |
| Apr-09 | ug/l | 8260 | | **6,300.** | < 5. | **48,000.** | < 5. | < 5. | < 5. | < 5. | < 5. | < 5. | NS | NS | 22. | < 5. | < 5. | < 5. | 2,700. | < 5. | NS | 98 |
| Sep-09 | ug/l | 8260 | | 6,100. | NS | **47,000.** | < 2. | NS | < 5. | < 5. | < 5. | NS | NS | NS | 12. | NS | < 5. | NS | 380. | NS | NS | NS |

Value exceeds a risk reduction standard
NR = not reported by the lab
NS = not sampled
NI = not installed
< = less than indicated value 0.950054289
< 5/< 500 = sample was analyzed twice
J this is an estimated value that is above the method detection limit but below the practical quantitation limit.
The sample denoted MW-10 on 12/18/98 is believed to have been collected from MW-9, I.e. the two samples were mislabeled. This table shows what is believed to be correct.
Risk reduction standard, the higher of the Type 3 or 4 from Table 2 of Risk Reduction Standards dated August 13, 2001
LAW-PZ-8 was found damaged during June 2006 sampling event and was not sampled. It was replaced by LAW-PZ-8R on 10/9/2006.
MW-17 was replaced by MW-17R on 10/10/2006.
MW-26 was replaced by MW-26R on 10/9/2006.

*Table 3-1*
*Ground Water Natural Attenuation Parameters* *(Modified from ERM, 2010)*
*Vopak*
*Savannah, GA*

| Wells | PAN MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | | | | | | | | | | | | | | | | | | |
| Aug-03 | 5.64 | 6.29 | NS | 7.54 | 8.18 | 5.57 | 3.71 | NS | 6.40 | 6.17 | NS | 4.98 | 6.88 | 4.87 | NS | 4.24 | 5.81 | NI |
| Oct-03 | 4.43 | 6.42 | 5.66 | 6.60 | 6.97 | 5.27 | 3.99 | NS | 6.15 | 6.40 | 4.03 | 3.94 | 6.35 | 4.70 | 6.21 | 4.35 | 5.62 | NI |
| Mar-04 | 5.04 | NS | NS | NS | NS | NS | 3.72 | 3.95 | NS | NS | NS | 4.09 | NS | NS | NS | NS | NS | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| May-05 | 5.49 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 4.45 | 4.23 | NS | NS | NS | 4.09 | NS | NI |
| Aug-05 | 3.54 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 2.88 | 2.74 | NS | NS | NS | 2.60 | NS | NI |
| Jun-06 | 4.63 | NS | NS | 7.48 | 7.63 | 5.60 | 4.93 | 4.05 | NS | NS | 4.87 | 4.35 | NS | 5.23 | NS | NS | NS | NI |
| Oct-06 | 5.11 | NS | 4.8 | 8.9 | 11.1 | 6.4 | 5.20 | 4.10 | NS | NS | 4.6 | 3.67 | NS | 5.2 | NS | 5.3 | NS | 5.8 |
| Dec-06 | 4.52 | NS | 5.38 | 6.67 | 7.15 | 5.45 | 5.95 | 4.45 | NS | NS | 4.61 | 4.04 | NS | 4.58 | NS | 5.21 | NS | NS |
| Mar-07 | 4.87 | NS | 5.41 | 7.09 | 7.39 | 5.47 | 5.91 | 4.34 | NS | NS | 4.75 | 4.01 | NS | 4.35 | NS | 5.65 | NS | NS |
| Sep-07 | 4.87 | 6.65 | 4.92 | 7.44 | 7.2 | 5.52 | 6.08 | 4.33 | 6.12 | NS | 4.67 | NS | 6.63 | 4.47 | 6.17 | 5.68 | 6.17 | 4.49 |
| May-08 | 3.39 | NS | 4.62 | 6.6 | NS | 5.27 | 5.61 | 4.27 | NS | NS | NS | 2.44 | NS | 3.74 | NS | 4.94 | NS | NS |
| Dec-08 | 4.24 | NS | 4.38 | 7.38 | NS | 4.65 | 5.94 | 3.88 | NS | NS | NS | 4.82 | NS | 4.08 | NS | 5.84 | NS | NS |
| Apr-09 | 3.49 | 5.48 | 4.26 | 6.94 | 6.53 | 5.29 | NS | 3.38 | 5.47 | NS | NS | 4.83 | 6.09 | 4.29 | 5.71 | 4.7 | 5.99 | 4.32 |
| Sep-09 | 4.21 | NS | 5.41 | 6.55 | NS | 5.87 | 5.98 | 4.89 | NS | NS | NS | 5.16 | NS | 4.54 | NS | 5.95 | NS | NS |
| **Temperature (ºC)** | | | | | | | | | | | | | | | | | | |
| Aug-03 | 26.09 | 26.90 | NS | 23.92 | 30.14 | 24.33 | 25.80 | NS | 27.84 | 23.99 | NS | 25.19 | 25.27 | 22.71 | NS | 26.41 | 26.25 | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | 17.30 | NS | NS | NS | NS | NS | 21.17 | 19.57 | NS | NS | NS | 18.20 | NS | NS | NS | NS | NS | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| May-05 | 21.35 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 21.40 | 20.91 | NS | NS | NS | 23.00 | NS | NI |
| Aug-05 | 23.79 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 25.06 | 25.12 | NS | NS | NS | 26.79 | NS | NI |
| Jun-06 | 22.45 | NS | NS | 22.76 | 24.08 | 24.45 | 26.75 | 27.12 | NS | NS | 22.97 | 24.20 | NS | 24.20 | NS | NS | NS | NI |
| Oct-06 | 24.39 | NS | 23 | 21 | 21 | 23 | 24.73 | 26.16 | NS | NS | 23 | 24.60 | NS | 21 | NS | 26 | NS | 20 |
| Dec-06 | 21.54 | NS | 20.05 | 22.01 | 23.60 | 22.16 | 23.72 | 21.80 | NS | NS | 22.98 | 22.02 | NS | 20.63 | NS | 21.93 | NS | NS |
| Mar-07 | 19.21 | NS | 18.71 | 21.71 | 22.29 | 19.95 | 24.45 | 19.22 | NS | NS | 20.44 | 20.68 | NS | 18.79 | NS | 20.68 | NS | NS |
| Sep-07 | 24.78 | 27.40 | 28.9 | 21.93 | 25.83 | 24.99 | 28.95 | 27.37 | 27.84 | NS | 27.46 | NS | 26.80 | 23.67 | 28.31 | 31.12 | 27.03 | 24.67 |
| May-08 | 19.38 | NS | 25.7 | 20.77 | NS | 20.15 | 25.25 | 22.82 | NS | NS | NS | 22.78 | NS | 20.65 | NS | 24.69 | NS | NS |
| Dec-08 | 19.97 | NS | 21.05 | 20.71 | NS | 21.4 | 22.06 | 21.81 | NS | NS | NS | 20.91 | NS | NS | NS | 22.22 | NS | NS |
| Apr-09 | 18.49 | 19.94 | 22.14 | 21.34 | 21.84 | 20.06 | 21.4 | 19.76 | 18.93 | NS | NS | 20.94 | 17.84 | 18.9 | 21.24 | 21.08 | 18.92 | 20.77 |
| Sep-09 | 26.51 | NS | 30.96 | 22.64 | NS | 27.23 | 26.48 | 27.32 | NS | NS | NS | 27.1 | NS | 25.6 | NS | 29.67 | NS | NS |
| **Dissolved Oxygen, mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | 0.51 | 0.45 | NS | 0.39 | 0.70 | 0.79 | 0.36 | NS | 0.49 | 1.44 | NS | 0.57 | 0.35 | 0.55 | NS | 2.14 | 0.33 | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | 0.13 | NS | NS | NS | NS | NS | 0.19 | 0.17 | NS | NS | NS | 0.17 | NS | NS | NS | NS | NS | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| May-05 | 0.11 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 1.73 | 0.43 | NS | NS | NS | 0.359 | NS | NI |
| Aug-05 | 0.11 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.16 | 0.42 | NS | NS | NS | 0.12 | NS | NI |
| Jun-06 | 0.30 | NS | NS | 22.40 | 3.50 | 7.18 | 2.1 | 1.53 | NS | NS | 0.81 | 1.04 | NS | 7.86 | NS | NS | NS | NI |
| Oct-06 | 3.75 | NS | NS | 2.8 | 4.4 | 6.5 | 1.86 | 0.88 | NS | NS | 2.7 | 0.81 | NS | 5.0 | NS | 1.6 | NS | 11.2 |
| Dec-06 | 0.14 | NS | 0.68 | 6.04 | 3.76 | 1.49 | 1.56 | 1.09 | NS | NS | 0.41 | 3.15 | NS | 2.03 | NS | 0.69 | NS | NS |
| Mar-07 | 19.69 | NS | 1.48 | 2.98 | 4.39 | 6.13 | 11.22 | 0.42 | NS | NS | 7.35 | 2.25 | NS | 114.19 | NS | 0.70 | NS | NS |
| Sep-07 | 4.92 | 4.23 | 0.92 | 5.35 | 5.8 | 0.79 | 3.64 | 1.24 | 1.88 | NS | 2.38 | NS | 2.11 | 0.54 | 1.49 | 1.46 | 1.13 | 2.59 |
| May-08 | 4.02 | NS | 1.07 | 2.38 | NS | 5.71 | 2.47 | 2.32 | NS | NS | NS | 0.89 | NS | 1.63 | NS | 2.15 | NS | NS |
| Dec-08 | 34 | NS | 0.41 | 1.61 | NS | 2.0 | 3.31 | 1.1 | NS | NS | NS | 5.68 | NS | 2.53 | NS | 0.69 | NS | NS |
| Apr-09 | 0.62 | 0.38 | 0.24 | 3.89 | 0.84 | 3.22 | 0.94 | 1.34 | 0.64 | NS | NS | 1.32 | 0.68 | 0.83 | 0.54 | 0.46 | 0.82 | 1.16 |
| Sep-09 | 1.38 | NS | 1.88 | 2.44 | NS | 120 | 3.02 | 1.24 | NS | NS | NS | 36 | NS | 1.0 | NS | 107 | NS | NS |

*Table 3-1*
*Ground Water Natural Attenuation Parameters* *(Modified from ERM, 2010)*
*Vopak*
*Savannah, GA*

| Wells | PAN MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Conductivity, ms/cm** | | | | | | | | | | | | | | | | | | |
| Aug-03 | 0.341 | 0.404 | NS | 0.373 | 0.384 | 0.302 | 4.170 | NS | 0.423 | 0.292 | NS | 0.649 | 0.532 | 0.317 | NS | 0.227 | 0.217 | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | 0.340 | NS | NS | NS | NS | NS | 2.860 | 0.310 | NS | NS | NS | 0.570 | NS | NS | NS | NS | NS | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| May-05 | 0.310 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.145 | 0.377 | NS | NS | NS | 23.000 | NS | NI |
| Aug-05 | 0.326 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.215 | 0.483 | NS | NS | NS | 0.324 | NS | NS |
| Jun-06 | 0.585 | NS | NS | 0.470 | 0.481 | 0.319 | 2.587 | 0.308 | NS | NS | 12.525 | 3.515 | NS | 0.262 | NS | NS | NS | NS |
| Oct-06 | 0.575 | NS | 0.001 | 0.400 | 0.410 | 0.310 | 0.429 | 0.235 | NS | NS | 0.500 | 6.943 | NS | 0.340 | NS | 0.460 | NS | 0.740 |
| Dec-06 | 0.490 | NS | 0.609 | 0.451 | 0.217 | 0.322 | 0.790 | 0.122 | NS | NS | 0.408 | 5.162 | NS | 0.743 | NS | 0.476 | NS | NS |
| Mar-07 | 0.401 | NS | 0.618 | 0.465 | 0.480 | 0.419 | 0.872 | 0.150 | NS | NS | 0.854 | 5.809 | NS | 1.303 | NS | 0.443 | NS | NS |
| Sep-07 | 1.440 | 0.560 | 0.333 | 0.451 | 0.134 | 0.407 | 0.726 | 0.212 | 0.209 | NS | 0.468 | NS | 0.220 | 1.554 | 0.300 | 0.444 | 0.487 | 0.694 |
| May-08 | 1.004 | NS | 0.809 | 0.454 | NS | 0.382 | 0.857 | 0.296 | NS | NS | NS | 4.940 | NS | 0.996 | NS | 0.519 | NS | NS |
| Dec-08 | 1.282 | NS | 0.606 | 0.406 | NS | 0.418 | 0.525 | 0.27 | NS | NS | NS | 1.279 | NS | 0.406 | NS | 0.395 | NS | NS |
| Apr-09 | 1.053 | 0.334 | 0.779 | 0.442 | 1.1 | 0.486 | 0.579 | 0.25 | 0.624 | NS | NS | 1.53 | 1.049 | 0.629 | 0.397 | 0.81 | 0.626 | 0.618 |
| Sep-09 | 0.947 | NS | 0.718 | 0.480 | NS | 0.572 | 0.513 | 0.273 | NS | NS | NS | 1.074 | NS | 0.548 | NS | 0.647 | NS | NS |
| **ORP, mv** | | | | | | | | | | | | | | | | | | |
| Aug-03 | -180.0 | -6.0 | NS | -153.0 | -164.0 | -26.0 | -22.0 | NS | 6.0 | 22.0 | NS | 16.0 | 134.0 | 178.0 | NS | 323.0 | 75.0 | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | 142.7 | NS | NS | NS | NS | NS | 67.7 | 233.9 | NS | NS | NS | 208.9 | NS | NS | NS | NS | NS | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| May-05 | 66.9 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 25.5 | 169.5 | NS | NS | NS | 231.6 | NS | NI |
| Aug-05 | -112.6 | NS | NS | NS | NS | NS | NS | NS | NS | NS | -18.1 | 146.1 | NS | NS | NS | 223.3 | NS | NI |
| Jun-06 | -21.6 | NS | NS | 44.7 | NS | 31.2 | 32.1 | 332.2 | NS | NS | -69.6 | 38.6 | NS | 78.4 | NS | NS | NS | NI |
| Oct-06 | -227.7 | NS | NS | NS | NS | NS | -96.1 | 244.9 | NS | NS | NS | 85.2 | NS | NS | NS | NS | NS | NS |
| Dec-06 | -184.4 | NS | -151.8 | -181.2 | -179.4 | -156.1 | -182.3 | -154.8 | NS | NS | -154.3 | -178.9 | NS | -146.4 | NS | -156.2 | NS | NS |
| Mar-07 | -179.5 | NS | -203.2 | -81.5 | -189.1 | -63.3 | -156.3 | 226.3 | NS | NS | -187.8 | -87.0 | NS | -101.7 | NS | -204.5 | NS | NS |
| Sep-07 | -29.6 | 103.3 | -11.4 | 66.2 | -148.6 | -25.8 | -77.3 | 312.2 | 4.9 | NS | -62.7 | NS | -102.5 | 37.3 | -103.4 | -72.0 | 48.3 | 48.1 |
| May-08 | 163.7 | NS | 139.7 | 353.9 | NS | 60.0 | -26.5 | 317.0 | NS | NS | NS | 300.4 | NS | 199.9 | NS | 34.4 | NS | NS |
| Dec-08 | 35.0 | NS | -4.3 | -47.9 | NS | 23.1 | -50.3 | 338.7 | NS | NS | NS | -104.9 | NS | 120.2 | NS | -104.6 | NS | NS |
| Apr-09 | 91.8 | -23.5 | 18.2 | 49.3 | -53.2 | 10.2 | -97.6 | 446.0 | -19.3 | NS | NS | -24.2 | -101.0 | 132.0 | -132.0 | -23.2 | 8.9 | -31.3 |
| Sep-09 | -119.0 | NS | -139 | -8.2 | NS | 59.6 | -89.4 | 81.3 | NS | NS | NS | -111 | NS | 120 | NS | -19.1 | NS | NS |
| **TOC mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-03 | 16. | NS | NS | NS | NS | NS | 430. | NS | NS | NS | NS | 13. | NS | NS | NS | NS | NS | NI |
| Mar-04 | 12. | NS | NS | NS | NS | NS | 523. | 3. | NS | NS | NS | 9. | NS | NS | NS | NS | NS | NI |
| Jun-04 | 15. | NS | NS | NS | NS | NS | 205. | 2. | NS | NS | NS | 8. | NS | NS | NS | NS | NS | NI |
| Sep-04 | 12. | NS | NS | NS | NS | NS | 253. | 2. | NS | NS | NS | 8. | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 230. | NS | NS | NS | NS | NS | NS | 2. | NS | NS | NS | 64. | NS | NS | NS | NS | NS | NI |
| Oct-06 | 34. | NS | NS | NS | NS | NS | 1,720. | 3. | NS | NS | NS | 8. | NS | NS | NS | NS | NS | NS |
| Dec-06 | 175. | NS | 219. | 2. | 13. | 6. | 228. | 2. | NS | NS | 320. | 27. | NS | 251. | NS | 154. | NS | NS |
| Mar-07 | 38. | NS | NS | NS | NS | NS | 43. | 2. | NS | NS | NS | 16. | NS | NS | NS | NS | NS | NS |
| Sep-07 | 1,210. | NS | NS | NS | NS | NS | 24. | 2. | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |

*Table 3-1*
*Ground Water Natural Attenuation Parameters* *(Modified from ERM, 2010)*
*Vopak*
*Savannah, GA*

| Wells | PAN MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Alkalinity (as $CaCO_3$), mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-03 | 62. | NS | NS | NS | NS | NS | < 1. | < 1. | NS | NS | NS | 16. | NS | NS | NS | NS | NS | NI |
| Mar-04 | 31. | NS | NS | NS | NS | NS | 0.0 | 0.0 | NS | NS | NS | 0.0 | NS | NS | NS | NS | NS | NI |
| Jun-04 | 29. | NS | NS | NS | NS | NS | < 1. | < 1. | NS | NS | NS | < 1. | NS | NS | NS | NS | NS | NI |
| Sep-04 | 19. | NS | NS | NS | NS | NS | < 1. | < 1. | NS | NS | NS | < 1. | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 17. | NS | NS | NS | NS | NS | 1,112. | < 1. | NS | NS | NS | < 1. | NS | NS | NS | NS | NS | NI |
| Oct-06 | 59. | NS | NS | NS | NS | NS | 177. | < 1. | NS | NS | NS | < 1. | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| **Ferrous Iron ($Fe^{2+}$) mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-03 | 13. | NS | NS | NS | NS | NS | 530. | < 1. | NS | NS | NS | 9.9 | NS | NS | NS | NS | NS | NI |
| Mar-04 | 13.5J | NS | NS | NS | NS | NS | 538J | 0.31J | NS | NS | NS | 16J | NS | NS | NS | NS | NS | NI |
| Jun-04 | 7.8J | NS | NS | NS | NS | NS | 307J | 0.08J | NS | NS | NS | 8.2J | NS | NS | NS | NS | NS | NI |
| Sep-04 | 11.8J | NS | NS | NS | NS | NS | 577J | 0.19J | NS | NS | NS | 12.4J | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | .53 | NS | NS | NS | NS | NS | .03 | .07 | NS | NS | NS | .99 | NS | NS | NS | NS | NS | NI |
| Oct-06 | .34 | NS | NS | NS | NS | NS | .53 | < .02 | NS | NS | NS | .76 | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| **Ferric Iron ($Fe^{3+}$) mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-03 | < 1. | NS | NS | NS | NS | NS | < 1. | 22. | NS | NS | NS | 1.1 | NS | NS | NS | NS | NS | NI |
| Mar-04 | BDL | NS | NS | NS | NS | NS | BDL | 3.5 | NS | NS | NS | BDL | NS | NS | NS | NS | NS | NI |
| Jun-04 | 1.3 | NS | NS | NS | NS | NS | 53 | < .1 | NS | NS | NS | 5.8 | NS | NS | NS | NS | NS | NI |
| Sep-04 | < 5. | NS | NS | NS | NS | NS | < 25. | < 4. | NS | NS | NS | < 5. | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 10. | NS | NS | NS | NS | NS | 250. | 0.68 | NS | NS | NS | 56.0 | NS | NS | NS | NS | NS | NI |
| Oct-06 | 14.7 | NS | NS | NS | NS | NS | 35. | 0.45 | NS | NS | NS | 67 | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |

*Table 3-1*
*Ground Water Natural Attenuation Parameters* *(Modified from ERM, 2010)*
*Vopak*
*Savannah, GA*

| Wells | PAN MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Sulfide (S) mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-03 | 2.7 | NS | NS | NS | NS | NS | 45. | < 1. | NS | NS | NS | < 1. | NS | NS | NS | NS | NS | NI |
| Mar-04 | < 9. | NS | NS | NS | NS | NS | 1.0 | < .4 | NS | NS | NS | < .4 | NS | NS | NS | NS | NS | NI |
| Jun-04 | < .2 | NS | NS | NS | NS | NS | 0.8 | < .2 | NS | NS | NS | < .2 | NS | NS | NS | NS | NS | NI |
| Sep-04 | 0.4 | NS | NS | NS | NS | NS | 8.6 | < 4. | NS | NS | NS | < 4. | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 5. | NS | NS | NS | NS | NS | < 1. | < 1. | NS | NS | NS | 4.0 | NS | NS | NS | NS | NS | NI |
| Oct-06 | < 1. | NS | NS | NS | NS | NS | < 1. | < 1. | NS | NS | NS | < 1. | NS | NS | NS | NS | NS | NS |
| Sep-07 | < 1. | NS | NS | NS | NS | NS | < 1. | < 1. | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| **Chloride (Cl) mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-03 | 43. | NS | NS | NS | NS | NS | 16.0 | 12.0 | NS | NS | NS | 100.0 | NS | NS | NS | NS | NS | NI |
| Mar-04 | 50.3 | NS | NS | NS | NS | NS | 14.6 | 12.5 | NS | NS | NS | 114.0 | NS | NS | NS | NS | NS | NI |
| Jun-04 | 35.2 | NS | NS | NS | NS | NS | 10.5 | 73.7 | NS | NS | NS | 73.7 | NS | NS | NS | NS | NS | NI |
| Sep-04 | 47. | NS | NS | NS | NS | NS | 9.8 | 11.5 | NS | NS | NS | 73.0 | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 100. | NS | NS | NS | NS | NS | 4.9 | 10.4 | NS | NS | NS | 1,080 | NS | NS | NS | NS | NS | NI |
| Oct-06 | 124. | NS | NS | NS | NS | NS | 4.9 | 9.7 | NS | NS | NS | 2,240 | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| **Nitrate-(N) mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-03 | < 1. | NS | NS | NS | NS | NS | 17. | 36. | NS | NS | NS | < 1. | NS | NS | NS | NS | NS | NI |
| Mar-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-04 | < .01 | NS | NS | NS | NS | NS | < .01 | < .01 | NS | NS | NS | < .01 | NS | NS | NS | NS | NS | NI |
| Sep-04 | < .01 | NS | NS | NS | NS | NS | < .01 | < .01 | NS | NS | NS | < .01 | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | < .01 | NS | NS | NS | NS | NS | 0.16 | 7.67 | NS | NS | NS | 0.19 | NS | NS | NS | NS | NS | NI |
| Oct-06 | < .01 | NS | NS | NS | NS | NS | < .01 | 2.32 | NS | NS | NS | 0.02 | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |

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*Vopak*
*Savannah, GA*

| Wells | PAN MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Nitrite Nitrogen (N) mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-03 | < 1. | NS | NS | NS | NS | NS | 0.8 | < 1. | NS | NS | NS | < 1. | NS | NS | NS | NS | NS | NI |
| Mar-04 | < .1 | NS | NS | NS | NS | NS | < .01 | 0.2 | NS | NS | NS | < .01 | NS | NS | NS | NS | NS | NI |
| Jun-04 | 0.18 | NS | NS | NS | NS | NS | < .01 | 21.6J | NS | NS | NS | < .01 | NS | NS | NS | NS | NS | NI |
| Sep-04 | < .01 | NS | NS | NS | NS | NS | < .01 | 19.3 | NS | NS | NS | < .01 | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | < .01 | NS | NS | NS | NS | NS | 0.06 | 0.29 | NS | NS | NS | <0.01 | NS | NS | NS | NS | NS | NI |
| Oct-06 | < .01 | NS | NS | NS | NS | NS | < .01 | 0.17 | NS | NS | NS | < .2 | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| **Sulfate ($SO_4$) mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-03 | 79. | NS | NS | NS | NS | NS | 3,700. | 56. | NS | NS | NS | 190. | NS | NS | NS | NS | NS | NI |
| Mar-04 | 82. | NS | NS | NS | NS | NS | 3,480. | 86. | NS | NS | NS | 124. | NS | NS | NS | NS | NS | NI |
| Jun-04 | 78. | NS | NS | NS | NS | NS | 3,250. | 102. | NS | NS | NS | 105. | NS | NS | NS | NS | NS | NI |
| Sep-04 | 89. | NS | NS | NS | NS | NS | 4,600. | 85. | NS | NS | NS | 113. | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 8. | NS | NS | NS | NS | NS | 1,920. | 71. | NS | NS | NS | 42. | NS | NS | NS | NS | NS | NI |
| Oct-06 | 8. | NS | NS | NS | NS | NS | 229. | 55. | NS | NS | NS | 120. | NS | NS | NS | NS | NS | NS |
| Sep-07 | 2. | NS | NS | NS | NS | NS | 48. | 55. | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| **Total Iron mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-03 | 13. | NS | NS | NS | NS | NS | 500. | 0.2 | NS | NS | NS | 11. | NS | NS | NS | NS | NS | NI |
| Mar-04 | 12. | NS | NS | NS | NS | NS | 510. | 3.8 | NS | NS | NS | 19. | NS | NS | NS | NS | NS | NI |
| Jun-04 | 9.1 | NS | NS | NS | NS | NS | 360. | < .04 | NS | NS | NS | 14. | NS | NS | NS | NS | NS | NI |
| Sep-04 | 9.8 | NS | NS | NS | NS | NS | 380. | < .15 | NS | NS | NS | 10. | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 11. | NS | NS | NS | NS | NS | 250. | 0.75 | NS | NS | NS | 57. | NS | NS | NS | NS | NS | NI |
| Oct-06 | 15. | NS | NS | NS | NS | NS | 36. | 0.45 | NS | NS | NS | 68. | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |

*Table 3-1*
*Ground Water Natural Attenuation Parameters* *(Modified from ERM, 2010)*
*Vopak*
*Savannah, GA*

| Wells | PAN MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Methane ug/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | 590. | NS | NS | NS | NS | NS | 150 *F35 | NS | NS | NS | NS | 140. | NS | NS | NS | NS | NS | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | < .2 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | 1,700. | NS | NS | NS | NS | NS | 1,300. | 180. | NS | NS | NS | 650. | NS | NS | NS | NS | NS | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 2,800. | NS | NS | NS | NS | NS | 1,800. | 320. | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-06 | 4,500. | NS | NS | NS | NS | NS | 2,200. | 230. | NS | NS | NS | 630. | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| **Ethane ug/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | < .35 | NS | NS | NS | NS | NS | < .35 | NS | NS | NS | NS | < .35 | NS | NS | NS | NS | NS | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | < .35 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | 10.0 | NS | NS | NS | NS | NS | 0.04 | 0.12 | NS | NS | NS | 44.0 | NS | NS | NS | NS | NS | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 2.5 | NS | NS | NS | NS | NS | 0.1 | 0.2 | NS | NS | NS | 21.0 | NS | NS | NS | NS | NS | NI |
| Oct-06 | 3.500 | NS | NS | NS | NS | NS | 0.11 | 0.15 | NS | NS | NS | 10.00 | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| **Ethene ug/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | < .33 | NS | NS | NS | NS | NS | NS | < .33 | NS | NS | NS | < .33 | NS | NS | NS | NS | NS | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | < .33 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | 3.9 | NS | NS | NS | NS | NS | 0.02 | 0.01 | NS | NS | NS | 29. | NS | NS | NS | NS | NS | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 1.7 | NS | NS | NS | NS | NS | 0.03 | 0.1 | NS | NS | NS | 19. | NS | NS | NS | NS | NS | NI |
| Oct-06 | 2.400 | NS | NS | NS | NS | NS | 0.14 | 0.10 | NS | NS | NS | 8.5 | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |

*Table 3-1*
*Ground Water Natural Attenuation Parameters* *(Modified from ERM, 2010)*
*Vopak*
*Savannah, GA*

| Wells | PAN MW-9 | PAN-MW-10 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20 | MW-21 | MW-22/MW-22R | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **$CO_2$ ug/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | 97,000. | NS | NS | NS | NS | NS | 3,500,000. | NS | NS | NS | NS | 86,000. | NS | NS | NS | NS | NS | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | 83,000. | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | 350,000. | NS | NS | NS | NS | NS | 990,000. | 410,000. | NS | NS | NS | 390,000. | NS | NS | NS | NS | NS | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 380,000. | NS | NS | NS | NS | NS | 630,000. | 300,000. | NS | NS | NS | 420,000. | NS | NS | NS | NS | NS | NI |
| Oct-06 | 400. | NS | NS | NS | NS | NS | 600. | 220. | NS | NS | NS | 200. | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| **Nitrogen mg/L** | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Mar-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| May-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Aug-05 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI |
| Jun-06 | 12. | NS | NS | NS | NS | NS | 4.5 | 11. | NS | NS | NS | 10. | NS | NS | NS | NS | NS | NI |
| Oct-06 | 12. | NS | NS | NS | NS | NS | 9.70 | 18. | NS | NS | NS | 14. | NS | NS | NS | NS | NS | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| May-08 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Dec-08 | | | | | | | | | | | | | | | | | | |
| Apr-09 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |

NS = Not sampled
J = Lab estimated value
*F35 = Lab estimated value
NVD = Color indicating field test for dissolved iron was used, but color was Not Visually Detected (NVD)
LAW-PZ-8 was found damaged during June 2006 sampling event and was not sampled. It was replaced by LAW-PZ-8R on 10/9/2006.
MW-17 was replaced by MW-17R on 10/10/2006.
MW-26 was replaced by MW-26R on 10/9/2006.

## Table 4-1: Comparison of CAP RRS for Groundwater to Revised Type 4 RRS

| Constituents | CAS No. | Current CAP RRS (µg/L) | Revised Type 4 RRS from Table 2-2 (µg/L) |
|---|---|---|---|
| Tetrachloroethene (PCE) | 127-18-4 | 5 | 5 |
| Trichloroethene (TCE) | 79-01-6 | 5 | 38 |
| 1,2-Dichloroethene (cis) | 156-59-2 | 1,020 | 1,022 |
| Vinyl chloride | 75-01-4 | 2 | 3 |
| | | | |
| Benzene | 71-43-2 | 15 | 9 |
| Ethylbenzene | 100-41-4 | 3,750 | 700 |
| Toluene | 108-88-3 | 2,030 | 5,241 |
| | 133-02-07 | 10,000 | 10,000 |

## Table 4-2: Type 4 Risk Reduction Standards for Groundwater [Rule 391-3-19-.07(9)(c)]

| Constituents (mg/L) | CAS No. | RAGS (Equation 2 from Table 2-3) Non-Carcinogenic Adult | RAGS (Equation 1 from Table 2-4) Carcinogenic Adult | Lesser of values from Equations 1 and 2 | Table 1, App III or Background, or Detection Limit (from GA EPD 391-3-19) | Type 4 RRS (lesser of values from Equations 1 and 2) |
|---|---|---|---|---|---|---|
| Tetrachloroethene (PCE) | 127-18-4 | 4.45E-01 | 3.83E-03 | 3.83E-03 | 5.00E-03 | 5.00E-03 |
| Trichloroethene (TCE) | 79-01-6 | NC | 3.77E-02 | 3.77E-02 | 5.00E-03 | 3.77E-02 |
| 1,2-Dichloroethene (cis) | 156-59-2 | 1.02E+00 | NC | 1.02E+00 | 7.00E-02 | 1.02E+00 |
| Vinyl chloride | 75-01-4 | 1.50E-01 | 3.27E-03 | 3.27E-03 | 2.00E-03 | 3.27E-03 |
| | | | | | | |
| Benzene | 71-43-2 | 7.21E-02 | 8.72E-03 | 8.72E-03 | 5.00E-03 | 8.72E-03 |
| Ethylbenzene | 100-41-4 | 2.27E+00 | 2.91E-02 | 2.91E-02 | 7.00E-01 | 7.00E-01 |
| Toluene | 108-88-3 | 5.24E+00 | NC | 5.24E+00 | 1.00E+00 | 5.24E+00 |
| | 133-02-07 | 2.88E-01 | NC | 2.88E-01 | 1.00E+01 | 1.00E+01 |

**Notes:**

*According to the EPA's Calculation of Risk-based PRG's, if a parameter is not defined for a contaminant, it should be given a zero value (RAGS Vol 1., EPA, 1991). A value of "NC" was assigned when both parameters were not defined, due to the inability to divide an equation by zero.

## Table 4-3: Type 4 Non-Carcinogenic Evaluation for Groundwater; Non-Residential Adult (RAGS Equation 2)

| Constituents | CAS No. | THI | BW (kg) | AT (yr) | CF (d/yr) | EF (d/yr) | ED (yr) | Irw (L/d) | RfDo (mg/kg-d) | Ira ($m^3$/d) | K ($L/m^{3)}$ | RfDi (from Table 2-5) (mg/kg-d) | RAGS (Equation 2) Non-Carcinogenic Adult (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene (PCE) | 127-18-4 | 1 | 70 | 25 | 365 | 250 | 25 | 1 | 1.00E-02 | 20 | 0.50 | 7.71E-02 | 4.45E-01 |
| Trichloroethene (TCE) | 79-01-6 | 1 | 70 | 25 | 365 | 250 | 25 | 1 | 0 | 20 | 0.50 | 0 | NC |
| 1,2-Dichloroethene (cis) | 156-59-2 | 1 | 70 | 25 | 365 | 250 | 25 | 1 | 1.00E-02 | 20 | 0.50 | 0 | 1.02E+00 |
| Vinyl chloride | 75-01-4 | 1 | 70 | 25 | 365 | 250 | 25 | 1 | 3.00E-03 | 20 | 0.50 | 2.86E-02 | 1.50E-01 |
| | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 1 | 70 | 25 | 365 | 250 | 25 | 1 | 4.00E-03 | 20 | 0.50 | 8.57E-03 | 7.21E-02 |
| Ethylbenzene | 100-41-4 | 1 | 70 | 25 | 365 | 250 | 25 | 1 | 1.00E-01 | 20 | 0.50 | 2.86E-01 | 2.27E+00 |
| Toluene | 108-88-3 | 1 | 70 | 25 | 365 | 250 | 25 | 1 | 8.00E-02 | 20 | 0.50 | 1.43E+00 | 5.24E+00 |
| | 133-02-07 | 1 | 70 | 25 | 365 | 250 | 25 | 1 | 2.00E-01 | 20 | 0.50 | 2.86E-02 | 2.88E-01 |

**Notes:**

Pursuant to Rule 391-3-19-.07(7)(b)1, groundwater RRS are calculated to evaluate the potential for noncancer toxic effects via ingestion of, or inhalation of volatiles from, groundwater. The water-air concentration relationship is applicable only to constituents with a Henry's Law constant of greater than 1 x 10 atm-m /mole and a molecular weight of less than 200 g/mole (RAGS Part B, EPA, 1991).

*According to the EPA's Calculation of Risk-based PRG's, if a parameter is not defined for a contaminant, it should be given a zero value (RAGS Vol 1., EPA, 1991). A value of 'NC' was assigned when both parameters were not defined, due to the inability to divide an equation by zero.

kg = kilogram; yr = year; d/yr = days per year; L/d = liters per day; kg/mg = kilograms per milligram; mg/kg-d = milligram per kilogram day; m3/d =cubic meters per day;
L/m3 = liters per cubic meter; mg/L = milligrams per liter
THI = Target hazard index
BW = Adult body weight
AT = Averaging Time
CF = Conversion Factor
EF = Exposure Frequency
ED = Exposure Duration
IRw = Daily water ingestion rate
RfDo = Oral chronic reference dose
IRa = Daily inhalation rate of air
K = Water-to-air volatilization factor
RfDi = Inhalation chronic reference dose

## Table 4-4: Type 4 Carcinogenic Evaluation for Groundwater; Non-Residential Adult (RAGS Equation 1)

| Constituents | CAS No. | TR | BW (kg) | AT (yr) | CF (d/yr) | EF (d/yr) | ED (yr) | IRw (L/d) | SFo $(mg/kg\text{-}d)^{-1}$ | IRa (m3/d) | K $(L/m^3)$ | SFi (from Table 2-5) $(mg/kg\text{-}d)^{-1}$ | RAGS (Equation 1) Carcinogenic Adult (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene (PCE) | 127-18-4 | 1.00E-05 | 70 | 70 | 365 | 250 | 25 | 1 | 5.40E-01 | 20 | 0.5 | 2.07E-02 | 3.83E-03 |
| Trichloroethene (TCE) | 79-01-6 | 1.00E-05 | 70 | 70 | 365 | 250 | 25 | 1 | 5.90E-03 | 20 | 0.5 | 7.00E-03 | 3.77E-02 |
| 1,2-Dichloroethene (cis) | 156-59-2 | 1.00E-05 | 70 | 70 | 365 | 250 | 25 | 1 | 0 | 20 | 0.5 | 0 | NC |
| Vinyl chloride | 75-01-4 | 1.00E-05 | 70 | 70 | 365 | 250 | 25 | 1 | 7.20E-01 | 20 | 0.5 | 1.54E-02 | 3.27E-03 |
| | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 1.00E-05 | 70 | 70 | 365 | 250 | 25 | 1 | 5.50E-02 | 20 | 0.5 | 2.73E-02 | 8.72E-03 |
| Ethylbenzene | 100-41-4 | 1.00E-05 | 70 | 70 | 365 | 250 | 25 | 1 | 1.10E-02 | 20 | 0.5 | 8.75E-03 | 2.91E-02 |
| Toluene | 108-88-3 | 1.00E-05 | 70 | 70 | 365 | 250 | 25 | 1 | 0 | 20 | 0.5 | 0 | NC |
| | 133-02-07 | 1.00E-05 | 70 | 70 | 365 | 250 | 25 | 1 | 0 | 20 | 0.5 | 0 | NC |

**Notes:**

Pursuant to Rule 391-3-19-.07(7)(b)1, groundwater RRS are calculated to evaluate the potential for noncancer toxic effects via ingestion of, or inhalation of volatiles from, groundwater. The water-air concentration relationship is applicable only to constituents with a Henry's Law constant of greater than 1 x 10 atm-m /mole and a molecular weight of less than 200 g/mole (RAGS Part B, EPA, 1991).

*According to the EPA's Calculation of Risk-based PRG's, if a parameter is not defined for a contaminant, it should be given a zero value (RAGS Vol 1., EPA, 1991). A value of 'NC' was assigned when both parameters were not defined, due to the inability to divide an equation by zero.

kg = kilogram; yr = year; d/yr = days per year; L/d = liters per day; kg/mg = kilograms per milligram; mg/kg-d = milligram per kilogram day; m3/d =cubic meters per day;
L/m3 = liters per cubic meter; mg/L = milligrams per liter
TR = Target excess individual lifetime cancer risk
BW = Adult body weight
AT = Averaging Time
CF = Conversion Factor
EF = Exposure Frequency
ED = Exposure Duration
IRw = Daily water ingestion rate
SFo = Oral cancer slope factor
IRa = Daily inhalation rate of air
K = Water-to-air volatilization factor
SFi = Inhalation cancer slope factor

## Table 4-5: Toxicity Factors

| Constituents | CAS No. | Non-Carcinogenic | | Carcinogenic | |
|---|---|---|---|---|---|
| | | RfCi[*1] | RfDi[*2] | IUR[*1] | SFi[*2] |
| Tetrachloroethene (PCE) | 127-18-4 | 2.70E-01 | 7.71E-02 | 5.90E-06 | 2.07E-02 |
| Trichloroethene (TCE) | 79-01-6 | 0 | 0 | 2.00E-06 | 7.00E-03 |
| 1,2-Dichloroethene (cis) | 156-59-2 | 0 | 0 | 0 | 0 |
| Vinyl chloride | 75-01-4 | 1.00E-01 | 2.86E-02 | 4.40E-06 | 1.54E-02 |
| | | | | | |
| Benzene | 71-43-2 | 3.00E-02 | 8.57E-03 | 7.80E-06 | 2.73E-02 |
| Ethylbenzene | 100-41-4 | 1.00E+00 | 2.86E-01 | 2.50E-06 | 8.75E-03 |
| | 108-88-3 | 5.00E+00 | 1.43E+00 | 0 | 0 |
| Xylenes (total) | 133-02-07 | 1.00E-01 | 2.86E-02 | 0 | 0 |

**Notes:**

*According to the EPA's Calculation of Risk-based PRG's, if a parameter is not defined for a contaminant, it should be given a zero value (RAGS Vol 1., EPA, 1991).

[*1] May 2010 Regional Screening Level (RSL) Summary Table data from EPA.

[*2] Calculated using "Conversion Equations for Inhalation Reference Concentrations and Inhalation Unit Risk Factors" from EPD, Georgia Dept of Natural Resources: Compliance Status Report 391-3-19-.07 (Cited 22 April, 2010).

RfCi = Chronic inhalation reference concentration
RfDi = Inhalation chronic reference dose
IUR = Chronic inhalation unit risk
SFi = Inhalation cancer slope factor

PCE REMEDIATION, VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# VRP APPLICATION (Revised)

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# FIGURES

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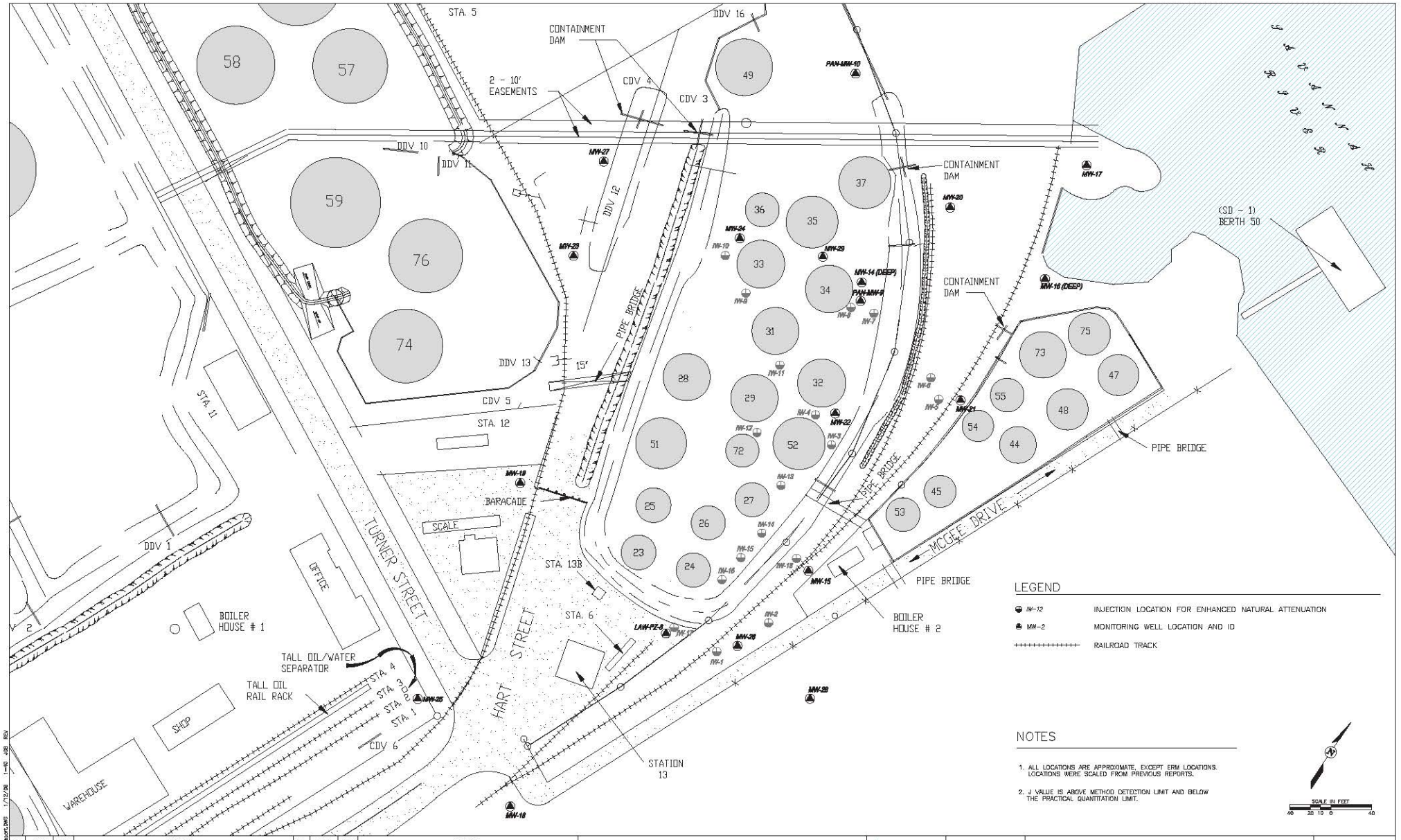



## LEGEND

- IW-12 — INJECTION LOCATION FOR ENHANCED NATURAL ATTENUATION
- MW-2 — MONITORING WELL LOCATION AND ID
- RAILROAD TRACK

## NOTES

1. ALL LOCATIONS ARE APPROXIMATE, EXCEPT ERM LOCATIONS. LOCATIONS WERE SCALED FROM PREVIOUS REPORTS.
2. J VALUE IS ABOVE METHOD DETECTION LIMIT AND BELOW THE PRACTICAL QUANTITATION LIMIT.

SCALE IN FEET
40 20 10 0 40

| NO. | DATE | APPR. | REVISION | NO. | DATE | APPR. | REVISION |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**THIRD ANNUAL REPORT ON CORRECTIVE ACTION**

VOPAK (FORMERLY PAKTANK CORPORATION) SAVANNAH, GA

| | |
|---|---|
| DRAWN BY: J. BYRD | PROJECT ENGINEER: J. BYRD |
| DESIGN ENGINEER: S. THOMPSON | PROJECT MANAGER: S. THOMPSON |

ERM

**NOT FOR CONST-RUCTION**

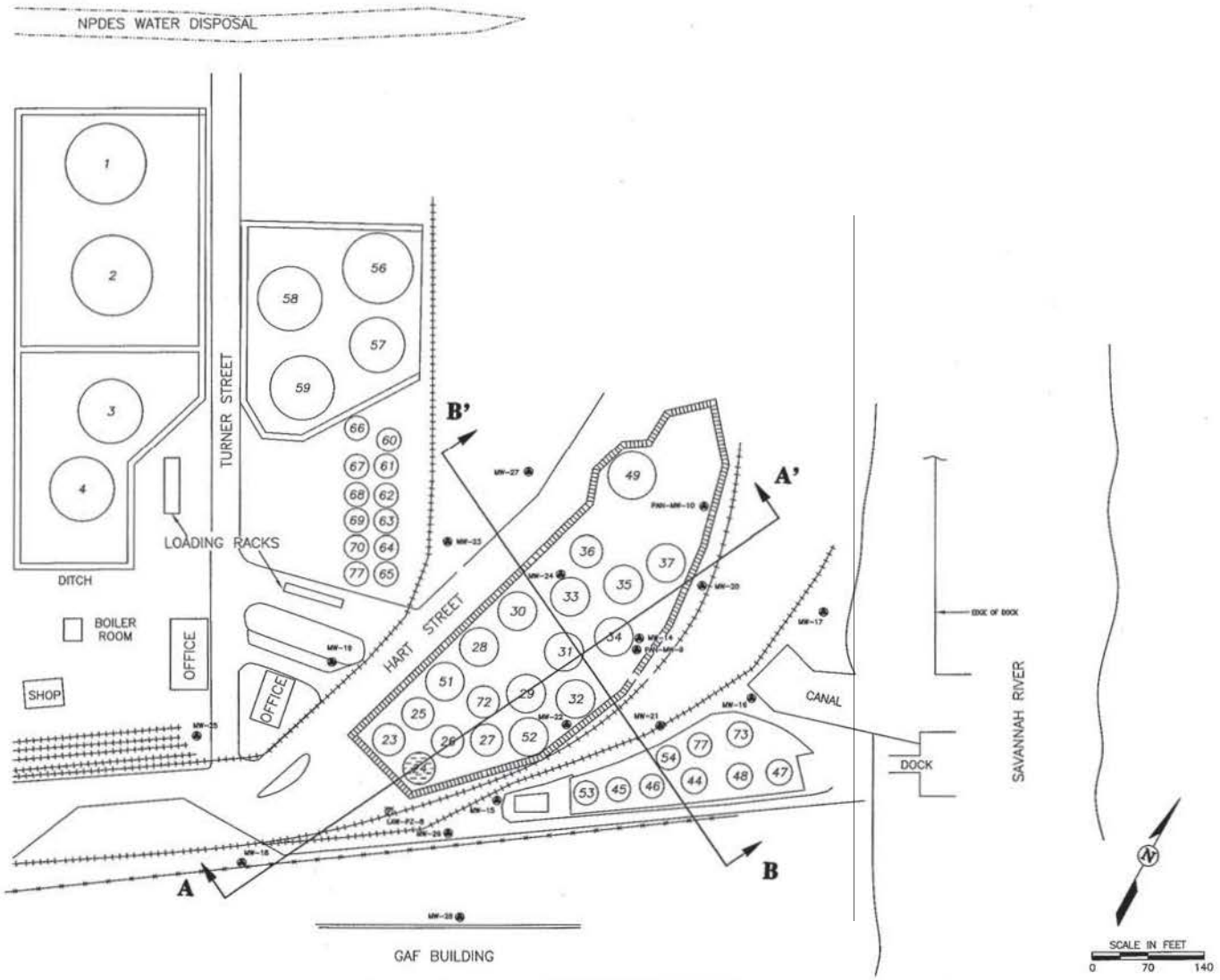
**SITE MAP**

| | |
|---|---|
| SCALE: AS SHOWN | DATE: JANUARY 12, 2009 |
| PROJECT NO.: 110235 VOPAK | AutoCAD R-2002: 110235_Vopak 2009 Annual Report.DWG |

**FIGURE 1-1**

SHEET OF

110235_Vopak 2009 Annual Report.DWG 1/12/09 1=40 #28 REV




LEGEND

- MW-2 — MONITORING WELL LOCATION AND ID
- PZ-8 — PIEZOMETER LOCATIONS AND ID
- RAILROAD TRACK
- POND
- PROPERTY LINE
- TANK WHERE TETRACHLOROETHENE WAS STORED

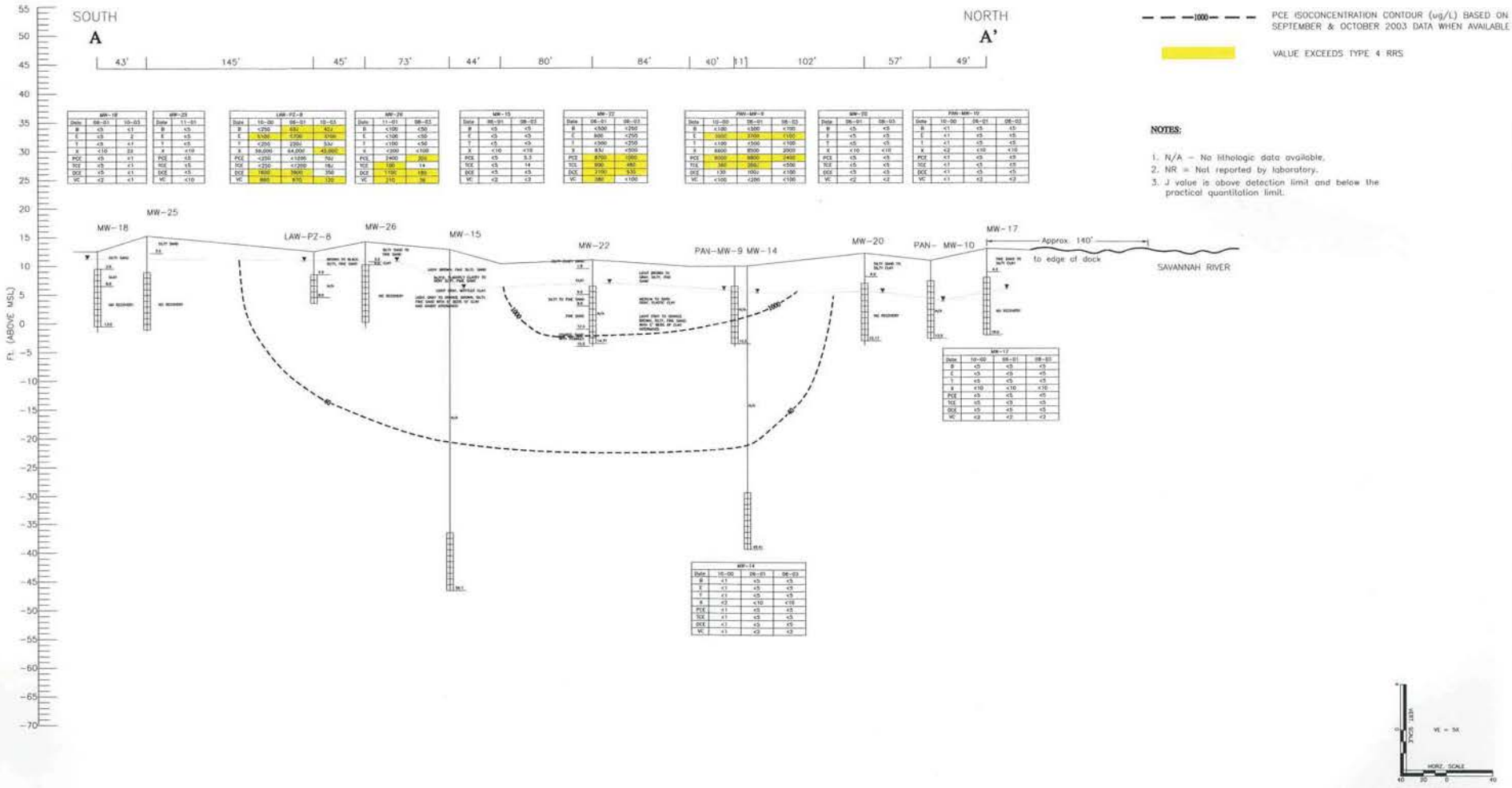
APPROXIMATE GROUND WATER FLOW DIRECTION

3224CSLOC_CAP_REV_2.DWG 11-15-02 1=200 IS

**Environmental Resources Management** (ERM)

**CROSS SECTION LOCATIONS**
REVISED CORRECTIVE ACTION PLAN
VOPAK (FORMERLY PAKTANK CORPORATION
SAVANNAH, GEORGIA

FIGURE 1-2




LEGEND

| DATE SAMPLED |
|---|
| B – Benzene |
| E – Ethylbenzene |
| T – Toluene |
| X – Xylenes |
| PCE – Tetrachloroethene |
| TCE – Trichloroethene |
| DCE – Cis, 1, 2, Dichloroethene |
| VC – Vinyl Chloride |

CONCENTRATIONS IN ug/L

-1000- PCE ISOCONCENTRATION CONTOUR (ug/L) BASED ON SEPTEMBER & OCTOBER 2003 DATA WHEN AVAILABLE

VALUE EXCEEDS TYPE 4 RRS

**NOTES:**

1. N/A – No lithologic data available.
2. NR = Not reported by laboratory.
3. J value is above detection limit and below the practical quantitation limit.

| MW-18 | | |
|---|---|---|
| Date | 08-01 | 10-03 |
| B | <5 | <1 |
| E | <5 | 2 |
| T | <5 | <1 |
| X | <10 | 22 |
| PCE | <5 | <1 |
| TCE | <5 | <1 |
| DCE | <5 | <1 |
| VC | <2 | <1 |

| MW-25 | | |
|---|---|---|
| Date | 10-00 | 11-01 |
| B | <5 | |
| E | <5 | |
| T | <5 | |
| X | <10 | |
| PCE | <5 | |
| TCE | <5 | |
| DCE | <5 | |
| VC | <10 | |

| LAW-PZ-8 | | | |
|---|---|---|---|
| Date | 10-00 | 08-01 | 10-03 |
| B | <250 | 630 | 422 |
| E | 5300 | 7700 | 5700 |
| T | <250 | 2200 | 532 |
| X | 56,000 | 64,000 | 43,000 |
| PCE | <250 | <1200 | 760 |
| TCE | <250 | <1200 | 182 |
| DCE | 1800 | 2600 | 356 |
| VC | 880 | 870 | 120 |

| MW-26 | | |
|---|---|---|
| Date | 11-01 | 08-03 |
| B | <100 | <50 |
| E | <100 | <50 |
| T | <100 | <50 |
| X | <200 | <100 |
| PCE | 2400 | 200 |
| TCE | 100 | 14 |
| DCE | 1100 | 180 |
| VC | 210 | 36 |

| MW-15 | | |
|---|---|---|
| Date | 08-01 | 08-03 |
| B | <5 | <5 |
| E | <5 | <5 |
| T | <5 | <5 |
| X | <10 | <10 |
| PCE | <5 | 5.3 |
| TCE | <5 | 14 |
| DCE | <5 | <5 |
| VC | <2 | <2 |

| MW-22 | | |
|---|---|---|
| Date | 08-01 | 08-03 |
| B | <500 | <250 |
| E | 800 | <250 |
| T | <500 | <250 |
| X | 83J | <500 |
| PCE | 8700 | 1000 |
| TCE | 930 | 180 |
| DCE | 2100 | 530 |
| VC | 380 | <100 |

| PAN-MW-9 | | | |
|---|---|---|---|
| Date | 10-00 | 08-01 | 08-03 |
| B | <100 | <500 | <100 |
| E | 3600 | 3700 | 1100 |
| T | <100 | <500 | <100 |
| X | 8600 | 8500 | 2900 |
| PCE | 8000 | 8800 | 2400 |
| TCE | 360 | 350J | <500 |
| DCE | 130 | 160J | <100 |
| VC | <100 | <200 | <100 |

| MW-20 | | |
|---|---|---|
| Date | 08-01 | 08-03 |
| B | <5 | <5 |
| E | <5 | <5 |
| T | <5 | <5 |
| X | <10 | <10 |
| PCE | <5 | <5 |
| TCE | <5 | <5 |
| DCE | <5 | <5 |
| VC | <2 | <2 |

| PAN-MW-10 | | | |
|---|---|---|---|
| Date | 10-00 | 08-01 | 08-03 |
| B | <1 | <5 | <5 |
| E | <1 | <5 | <5 |
| T | <1 | <5 | <5 |
| X | <2 | <10 | <10 |
| PCE | <1 | <5 | <5 |
| TCE | <1 | <5 | <5 |
| DCE | <1 | <5 | <5 |
| VC | <1 | <2 | <2 |

| MW-17 | | | |
|---|---|---|---|
| Date | 10-00 | 08-01 | 08-03 |
| B | <3 | <3 | <3 |
| E | <5 | <5 | <5 |
| T | <5 | <5 | <5 |
| X | <10 | <10 | <10 |
| PCE | <5 | <5 | <5 |
| TCE | <5 | <5 | <5 |
| DCE | <5 | <5 | <5 |
| VC | <2 | <2 | <2 |

| MW-14 | | | |
|---|---|---|---|
| Date | 10-00 | 08-01 | 08-03 |
| B | <1 | <5 | <5 |
| E | <1 | <5 | <5 |
| T | <1 | <5 | <5 |
| X | <2 | <10 | <10 |
| PCE | <1 | <5 | <5 |
| TCE | <1 | <5 | <5 |
| DCE | <1 | <5 | <5 |
| VC | <1 | <2 | <2 |

VE = 5X

HORZ. SCALE

| NO. | DATE | APPR. | REVISION |
|---|---|---|---|
| 1 | 10-27-03 | JDR | UPDATED LAB DATA FOR AUGUST 2003 SAMPLING EVENT |

# REVISED CORRECTIVE ACTION PLAN

VOPAK (FORMERLY PAKTANK CORPORATION) SAVANNAH, GA

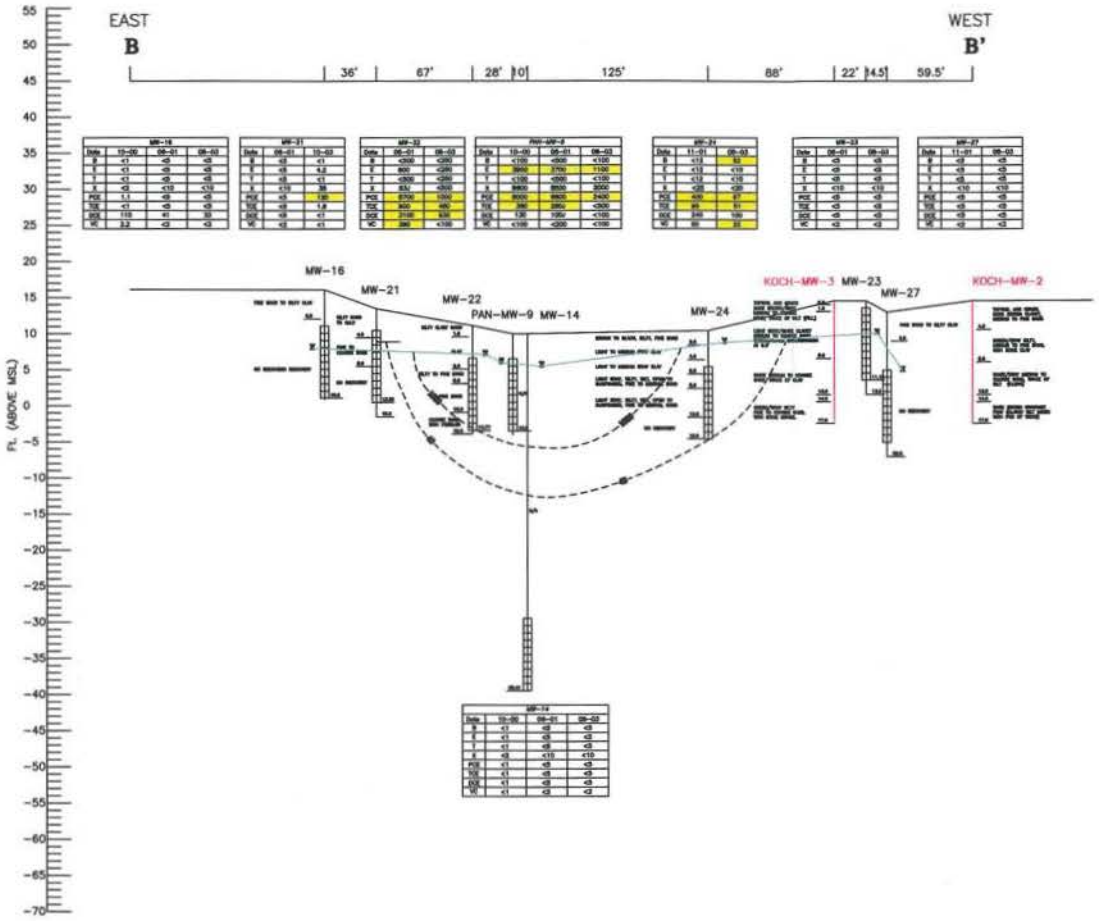
| DRAWN BY | LAST REVIEWED | PROJECT ENGINEER | LAST REVIEWED |
|---|---|---|---|
| I. SULJUZOVIC | 11-15-02 | A. SLAYTON | 11-15-02 |
| DESIGN ENGINEER | LAST REVIEWED | PROJECT MANAGER | LAST REVIEWED |
| | | J. RIGGENBACH | 11-15-02 |

ERM

## GEOLOGICAL CROSS - SECTION A-A'

| SCALE | DATE | CLIENT APPROVAL |
|---|---|---|
| AS NOTED | NOVEMBER 15, 2002 | |
| PROJECT NO. | AutoCAD R-14 | ISSUED FOR DATE |
| 3224 VOPAK | 3224CSA-A_CAP_REV2.DWG | SHEET OF |

FIGURE 1-3




LEGEND

CONCENTRATIONS IN ug/L

PCE ISOCONCENTRATION CONTOUR (ug/L) BASED ON AUGUST & OCTOBER 2003 DATA

VALUE EXCEEDS TYPE 4 RRS

WELLS NO LONGER EXISTING

NOTES:

1. KOCH-MW-3 and KOCH-MW-2 shown for lithology only.
2. N/A = No lithologic data available.
3. NR = Not reported by laboratory.
4. Lithology for MW-23 is assumed the same for KOCH-MW-3.

VE = 5X

PRELIMINARY

| NO. | DATE | APPR. | REVISION |
|---|---|---|---|
| 1 | 10-27-03 | JDR | ADDED AUGUST 2003 AND OCTOBER 2003 LAB DATA |

**REVISED CORRECTIVE ACTION PLAN**

VOPAK (FORMERLY PAKTANK CORPORATION) SAVANNAH, GA

DRAWN BY L. SULJUZOVIC LAST REVIEWED 11-15-02
PROJECT ENGINEER A. SLAYTON LAST REVIEWED 11-15-02
DESIGN ENGINEER LAST REVIEWED
PROJECT MANAGER J. RIGGENBACH LAST REVIEWED 11-15-02

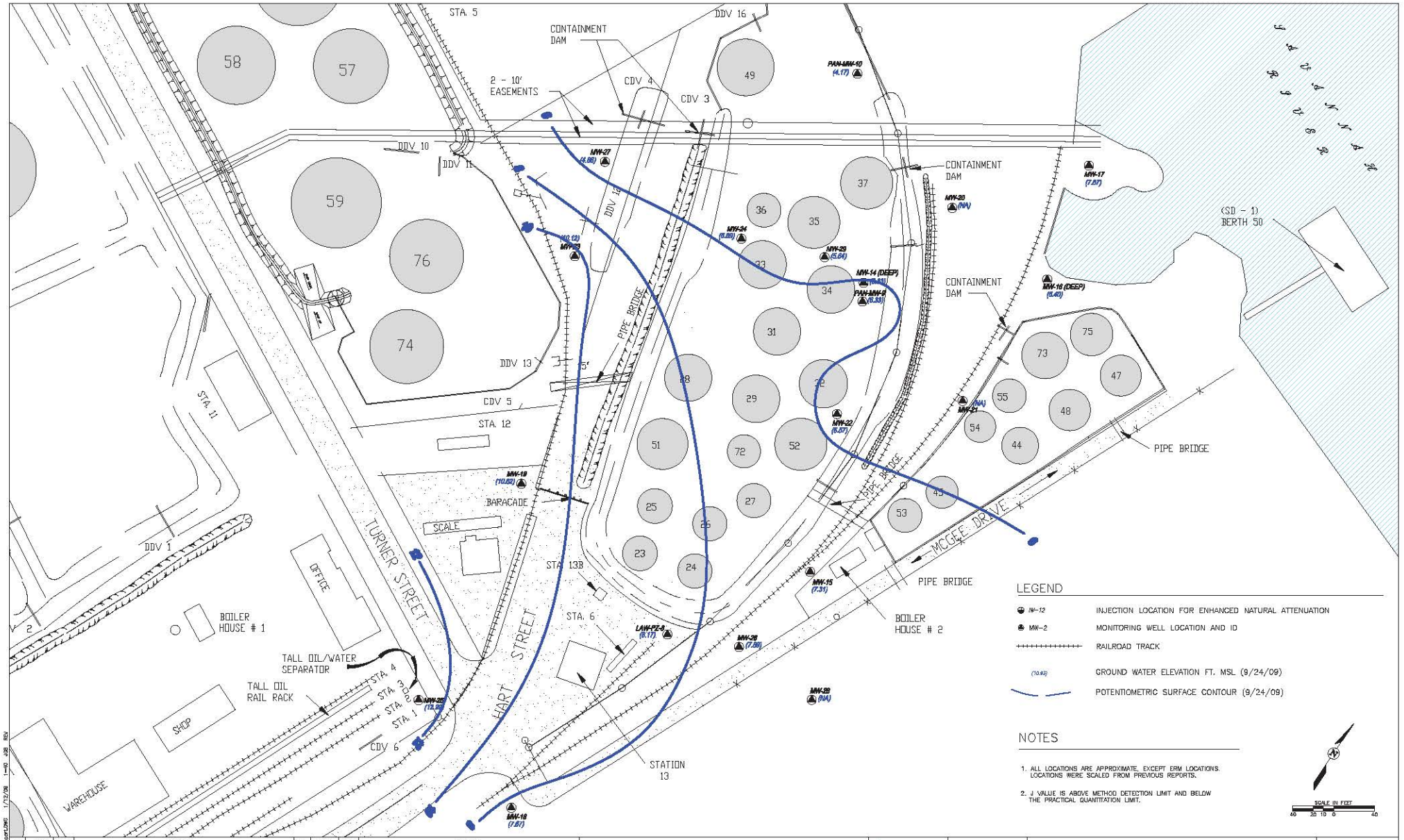
ERM

NOT FOR CONST-RUCTION

**GEOLOGICAL CROSS - SECTION B-B'**

SCALE AS NOTED
DATE NOVEMBER 15, 2002
CLIENT APPROVAL
PROJECT NO. 3224 VOPAK
AutoCAD R-14 3224CSB-B_CAP_REV2.DWG
ISSUED FOR DATE
SHEET OF

FIGURE 1-4




| NO. | DATE | APPR. | REVISION | NO. | DATE | APPR. | REVISION |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**THIRD ANNUAL REPORT ON CORRECTIVE ACTION**

VOPAK (FORMERLY PAKTANK CORPORATION) SAVANNAH, GA

| DRAWN BY | PROJECT ENGINEER |
|---|---|
| J. BYRD | J. BYRD |
| DESIGN ENGINEER | PROJECT MANAGER |
| S. THOMPSON | S. THOMPSON |

ERM

**NOT FOR CONST-RUCTION**

**POTENTIOMETRIC SURFACE MAP SEPTEMBER 2009**

| SCALE | DATE |
|---|---|
| AS SHOWN | JANUARY 12, 2009 |
| PROJECT NO. | AutoCAD R-2002 |
| 110235 VOPAK | 110235_Vopak 2009 Annual Report.DWG |

**FIGURE 1-5**

SHEET OF

110235_Vopak 2009 Annual Report.DWG 1/12/09 1=40 #28 REV

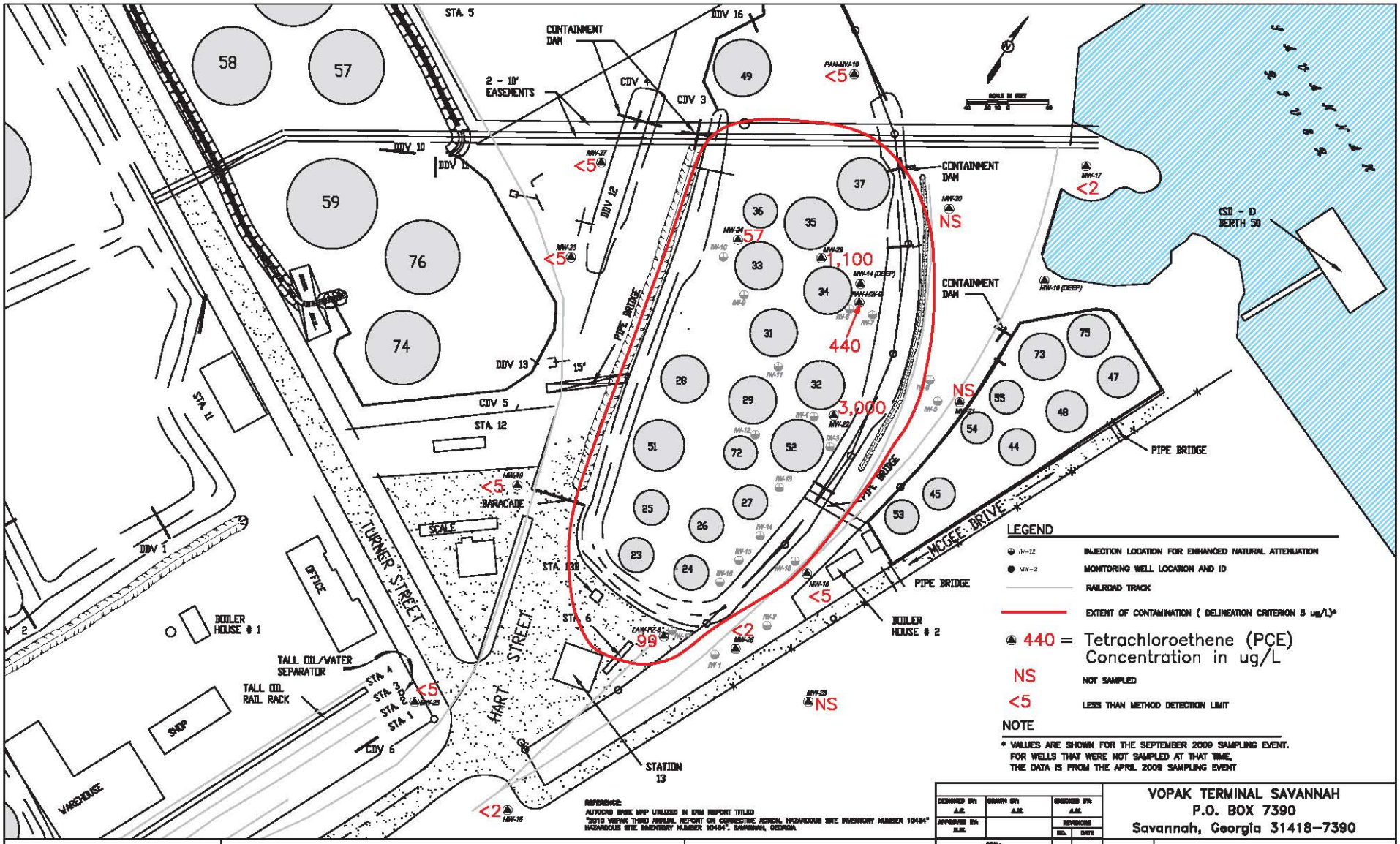



FIGURE 2-1

PCE CONTOUR MAP

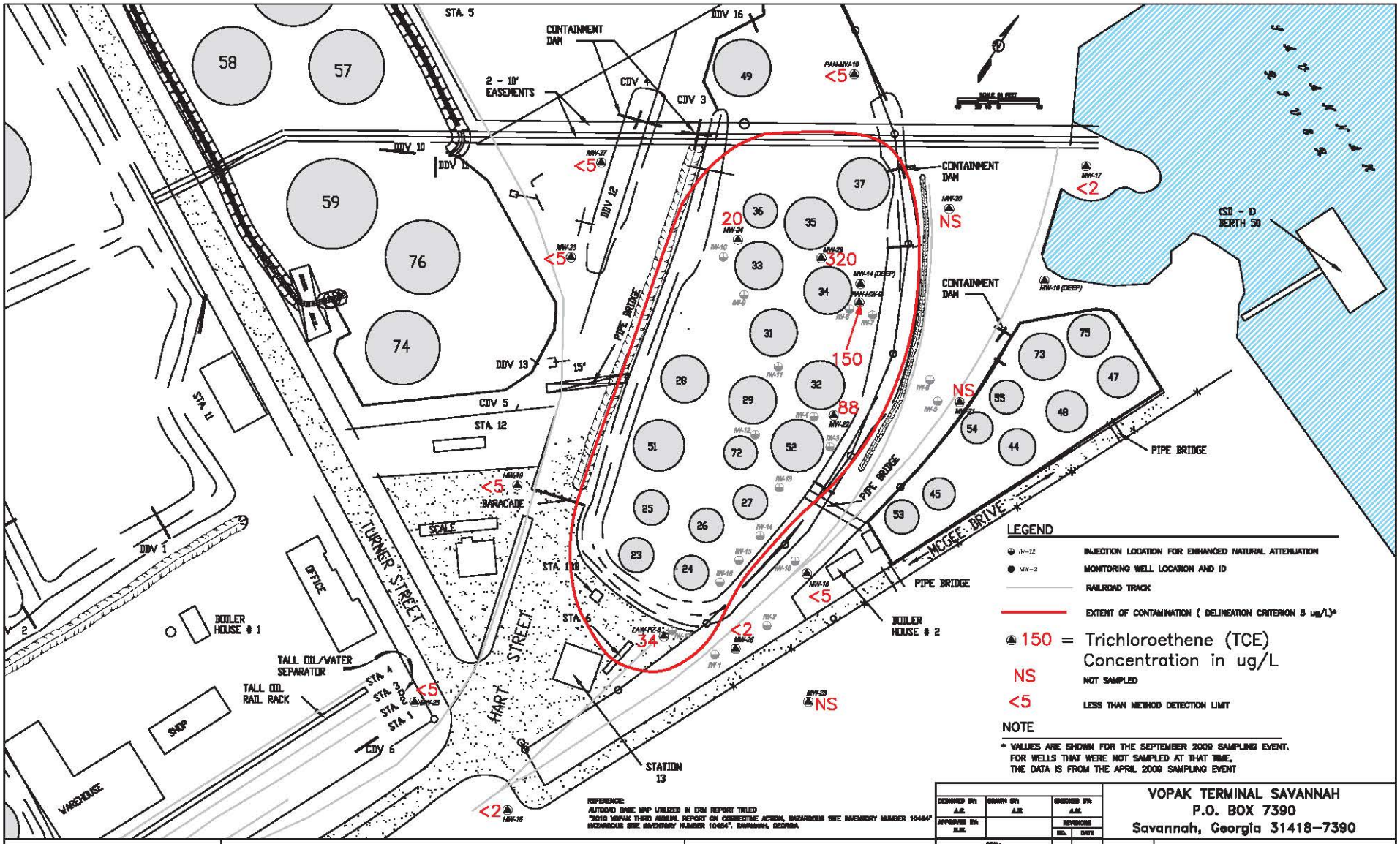



FIGURE 2-2

TCE CONTOUR MAP

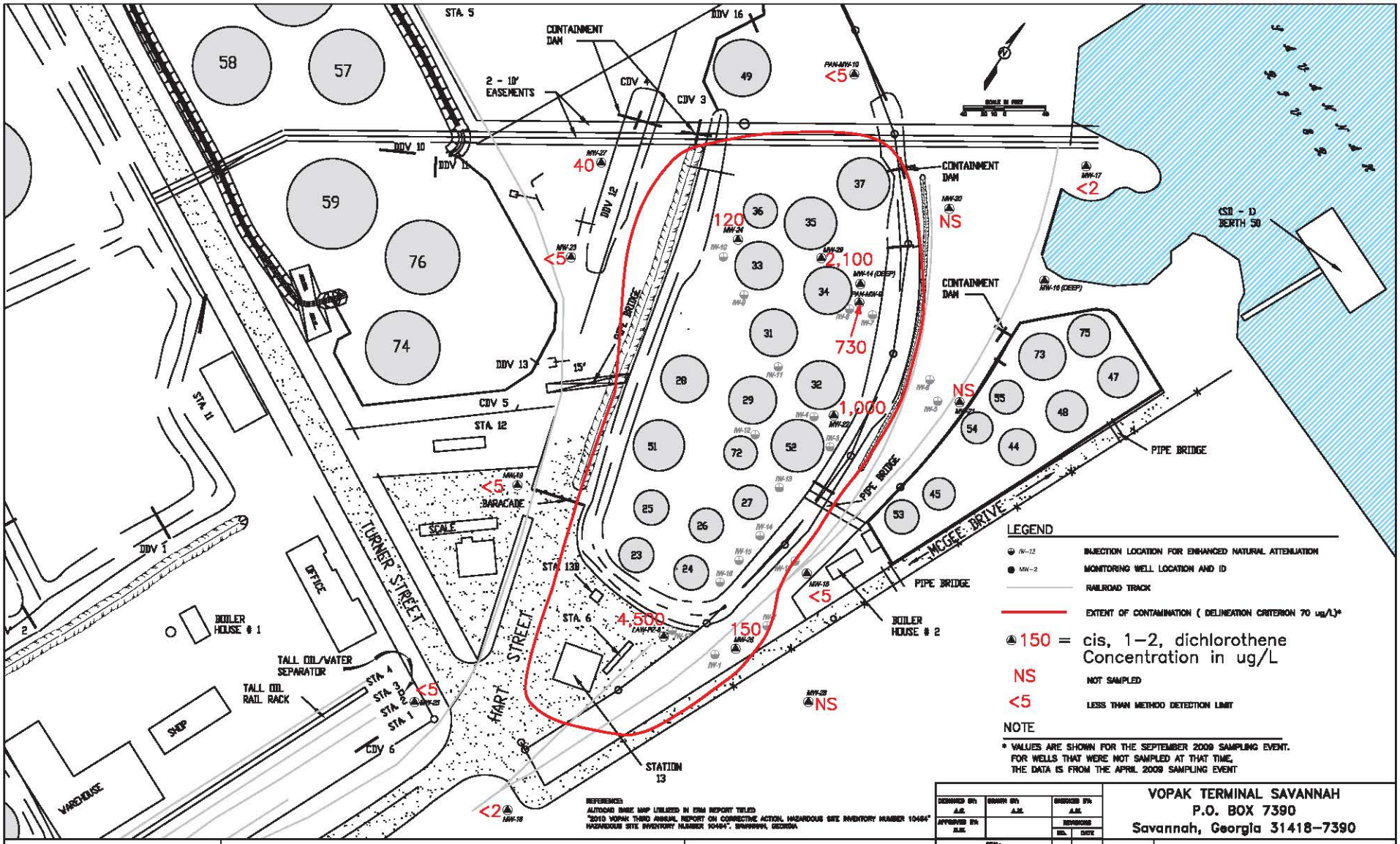
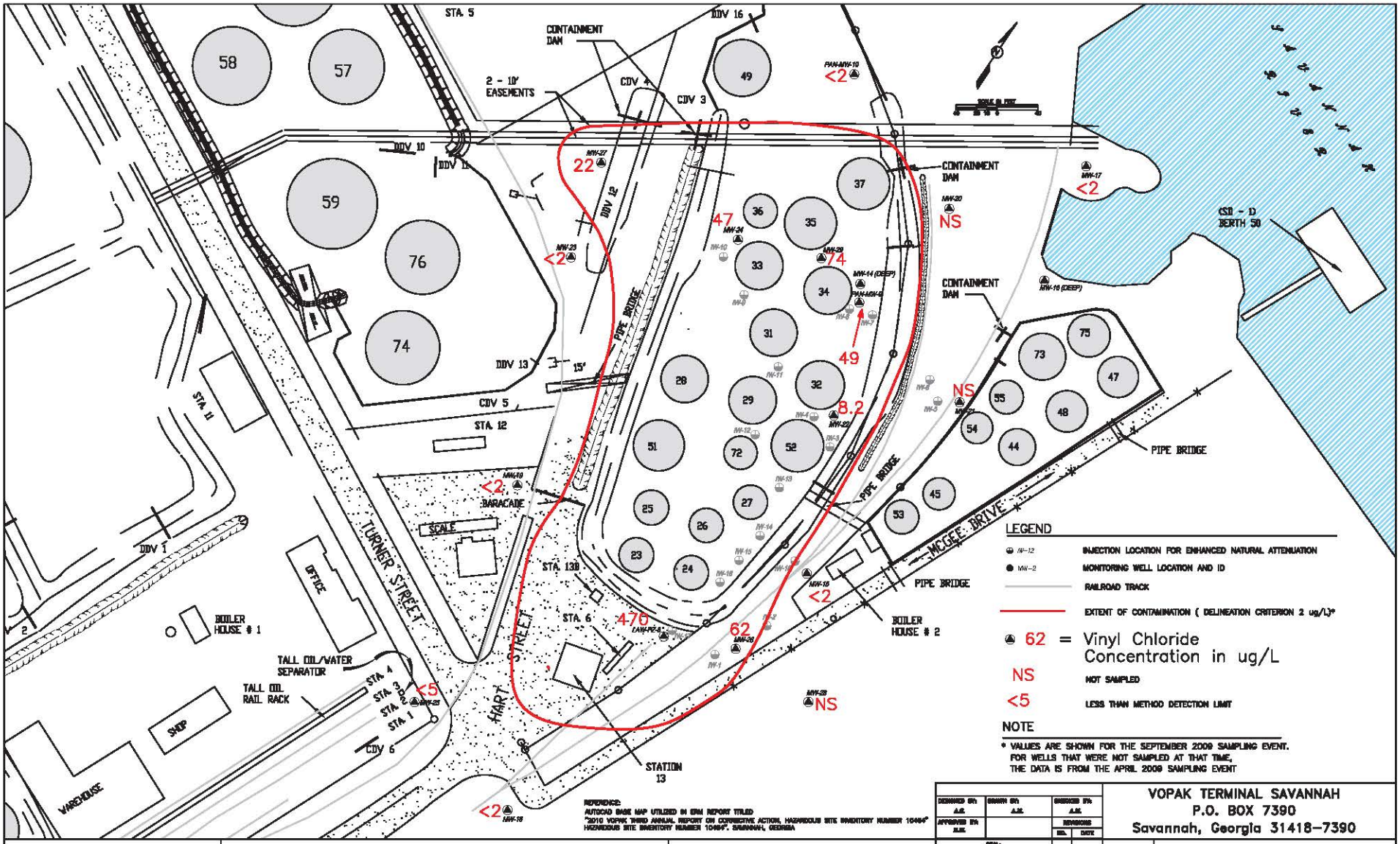



FIGURE 2-3

cis,1-2, DCE CONTOUR MAP

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

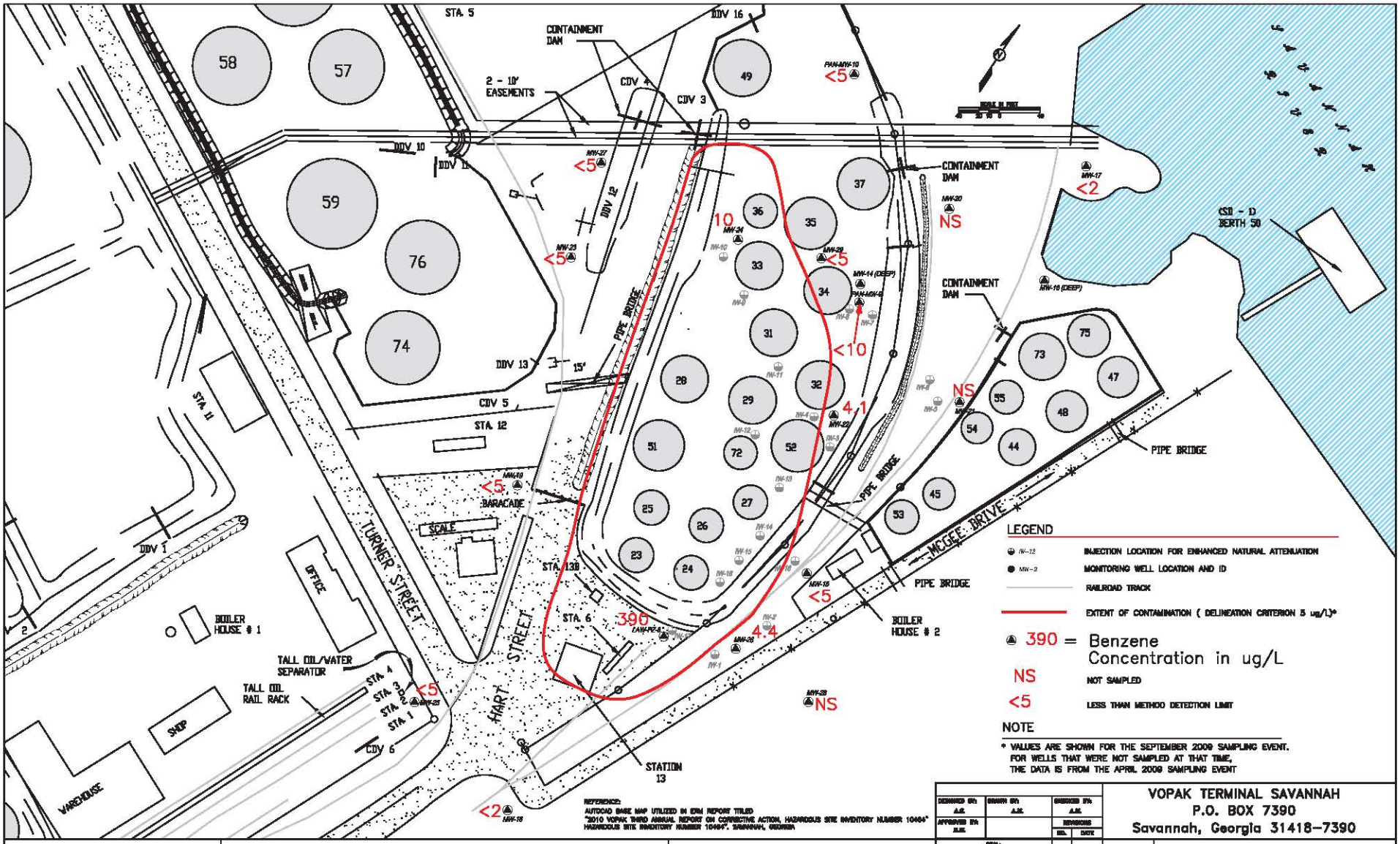



VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

**FIGURE 2-4**

VINYL CHLORIDE CONTOUR MAP




VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

FIGURE 2-5
BENZENE CONTOUR MAP

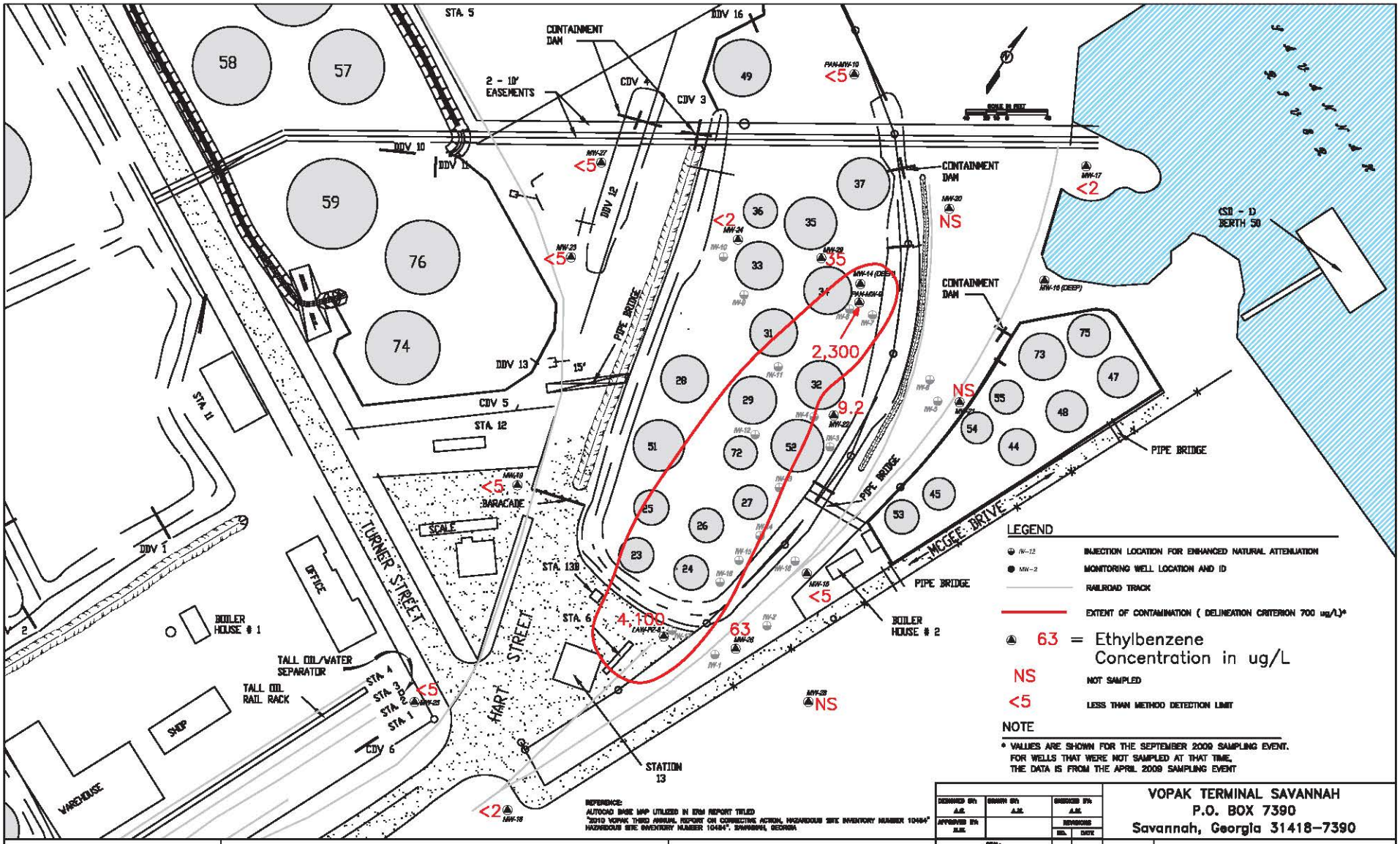



FIGURE 2-6

ETHYLBENZENE CONTOUR MAP

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

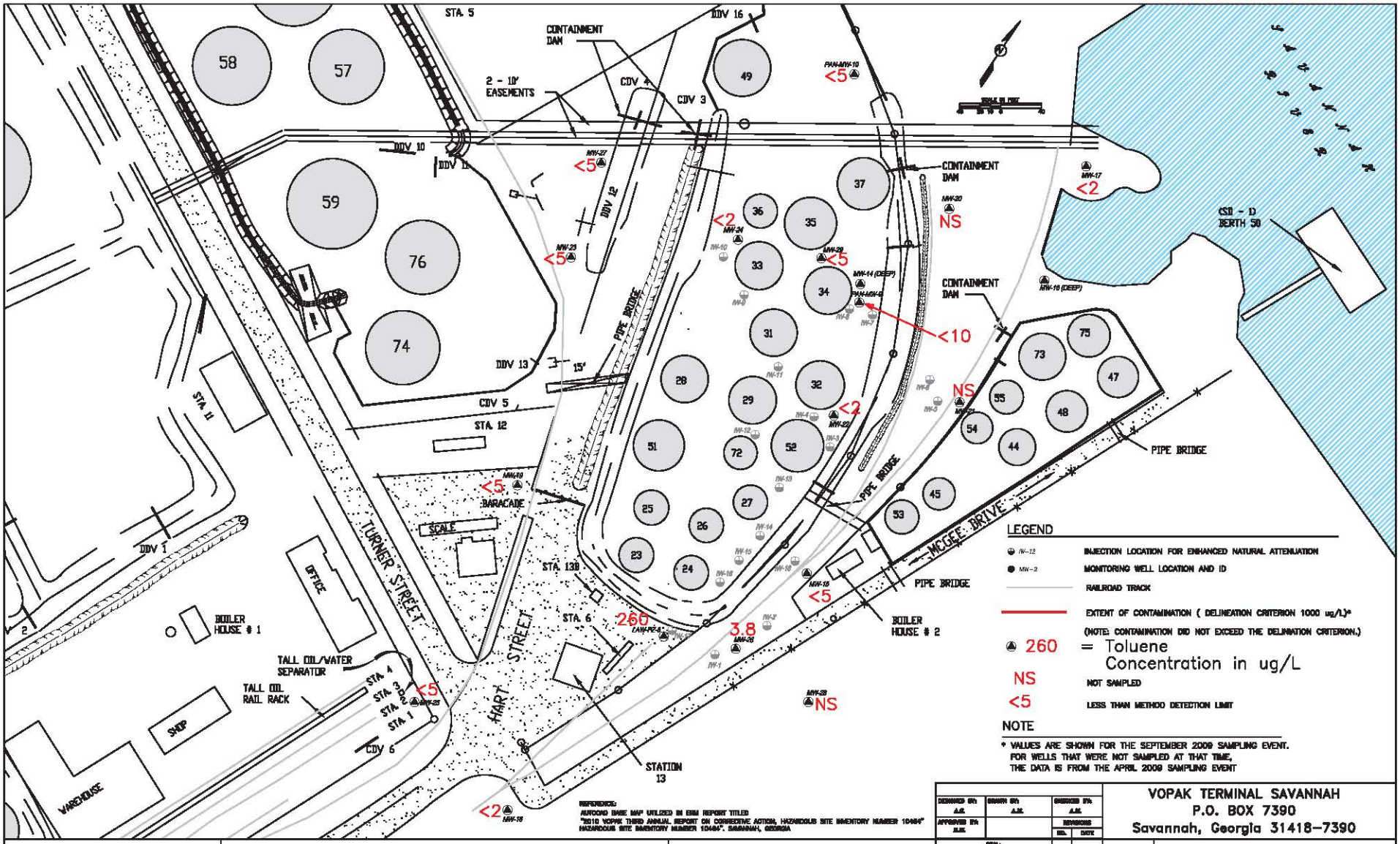



FIGURE 2-7

TOLUENE CONTOUR MAP

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

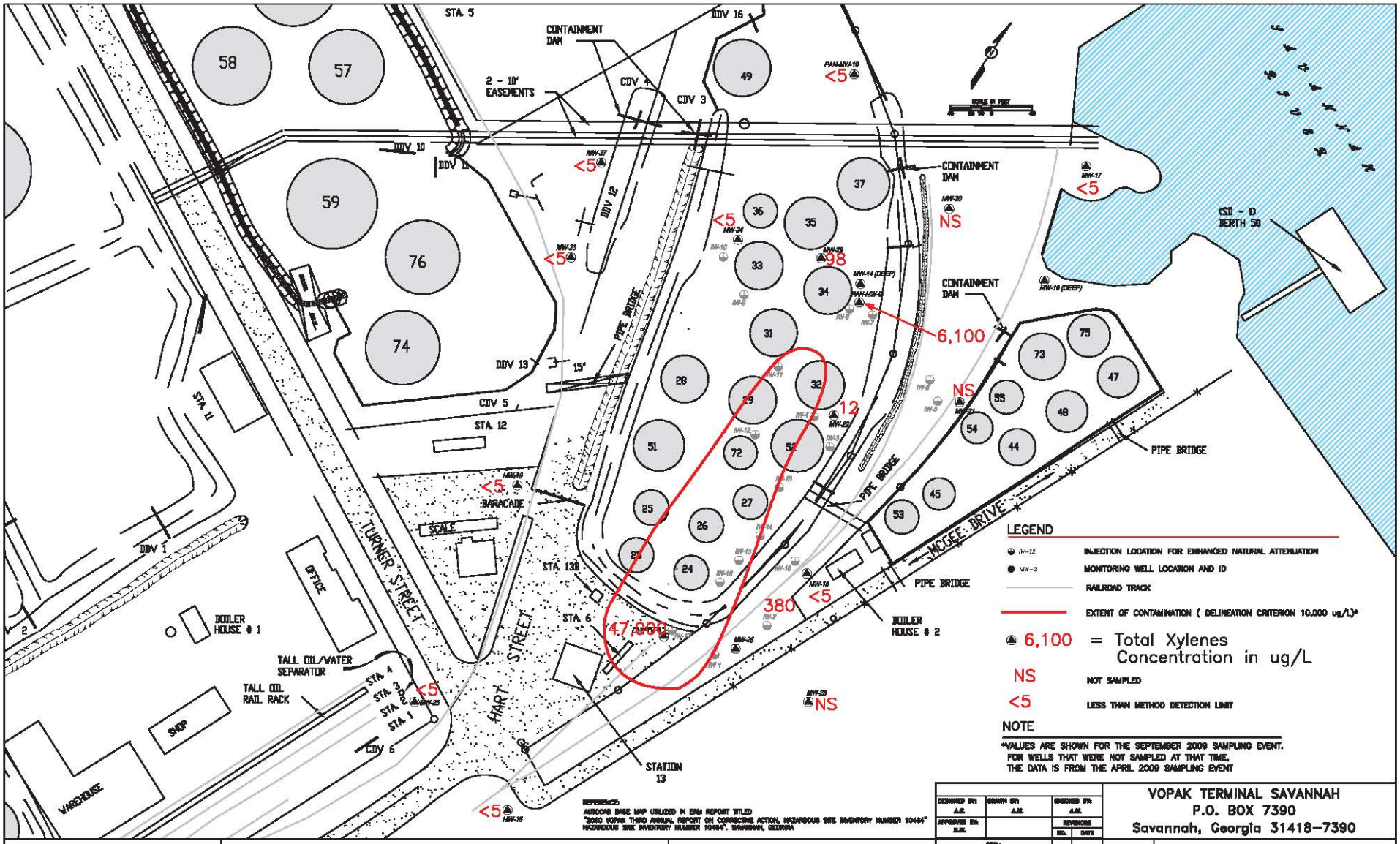
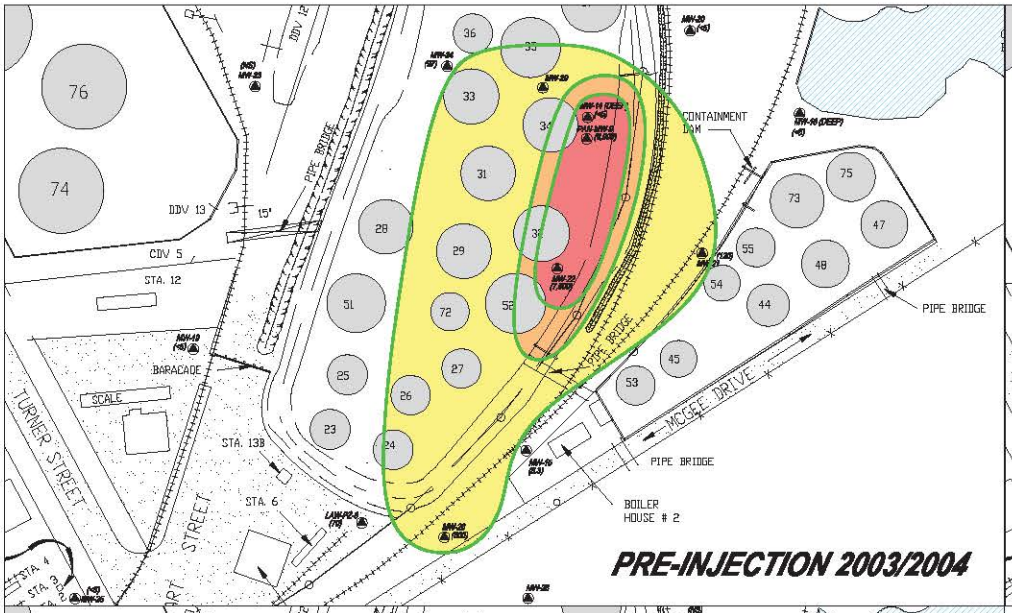


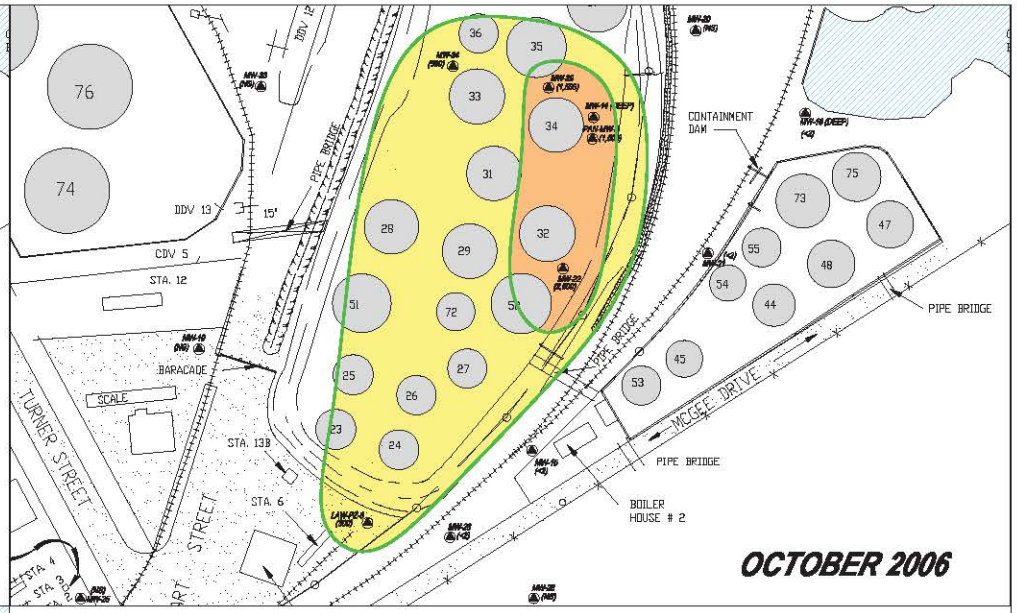

FIGURE 2-8

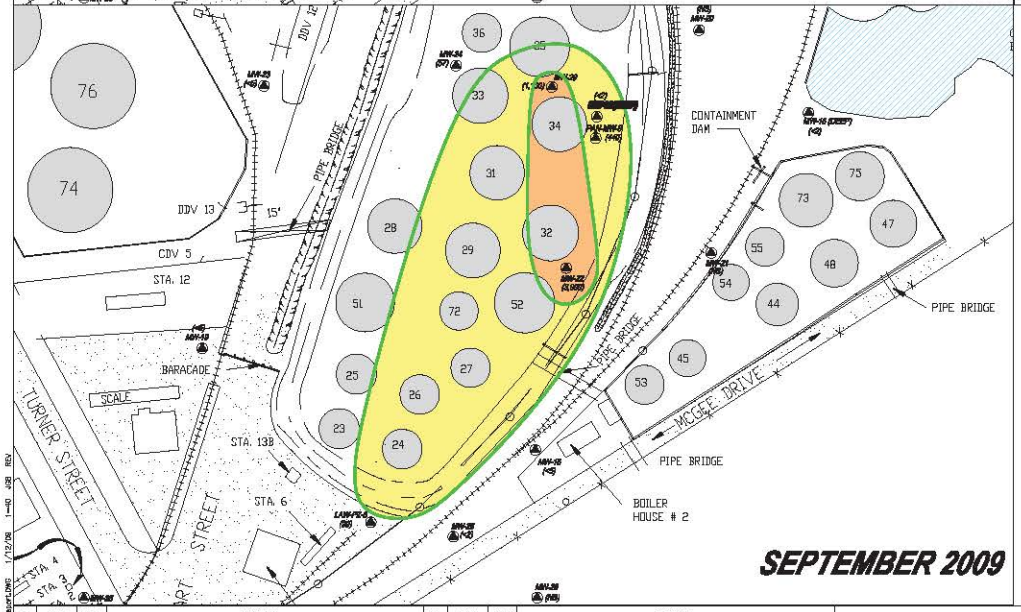
TOTAL XYLENE CONTOUR MAP

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009




## LEGEND

- IW-12 — INJECTION LOCATION FOR ENHANCED NATURAL ATTENUATION
- MW-2 — MONITORING WELL LOCATION AND ID
- RAILROAD TRACK
- TETRACHLOROETHENE CONCENTRATION IN ug/L
- TETRACHLOROETHENE ISOCONCENTRATION LINE
- 5,000 ug/L PCE
- 1,000 ug/L PCE
- 100 ug/L PCE

## NOTES

1. ALL LOCATIONS ARE APPROXIMATE, EXCEPT ERM LOCATIONS. LOCATIONS WERE SCALED FROM PREVIOUS REPORTS.
2. J VALUE IS ABOVE METHOD DETECTION LIMIT AND BELOW THE PRACTICAL QUANTITATION LIMIT.

SCALE IN FEET
50 25 0 50

| NO. | DATE | APPR. | REVISION | NO. | DATE | APPR. | REVISION |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**THIRD ANNUAL REPORT ON CORRECTIVE ACTION**

VOPAK (FORMERLY PAKTANK CORPORATION) SAVANNAH, GA

| | |
|---|---|
| DRAWN BY: J. BYRD | PROJECT ENGINEER: J. BYRD |
| DESIGN ENGINEER: S. THOMPSON | PROJECT MANAGER: S. THOMPSON |

ERM

**NOT FOR CONST-RUCTION**

**PCE PLUME TRENDS OVER TIME**

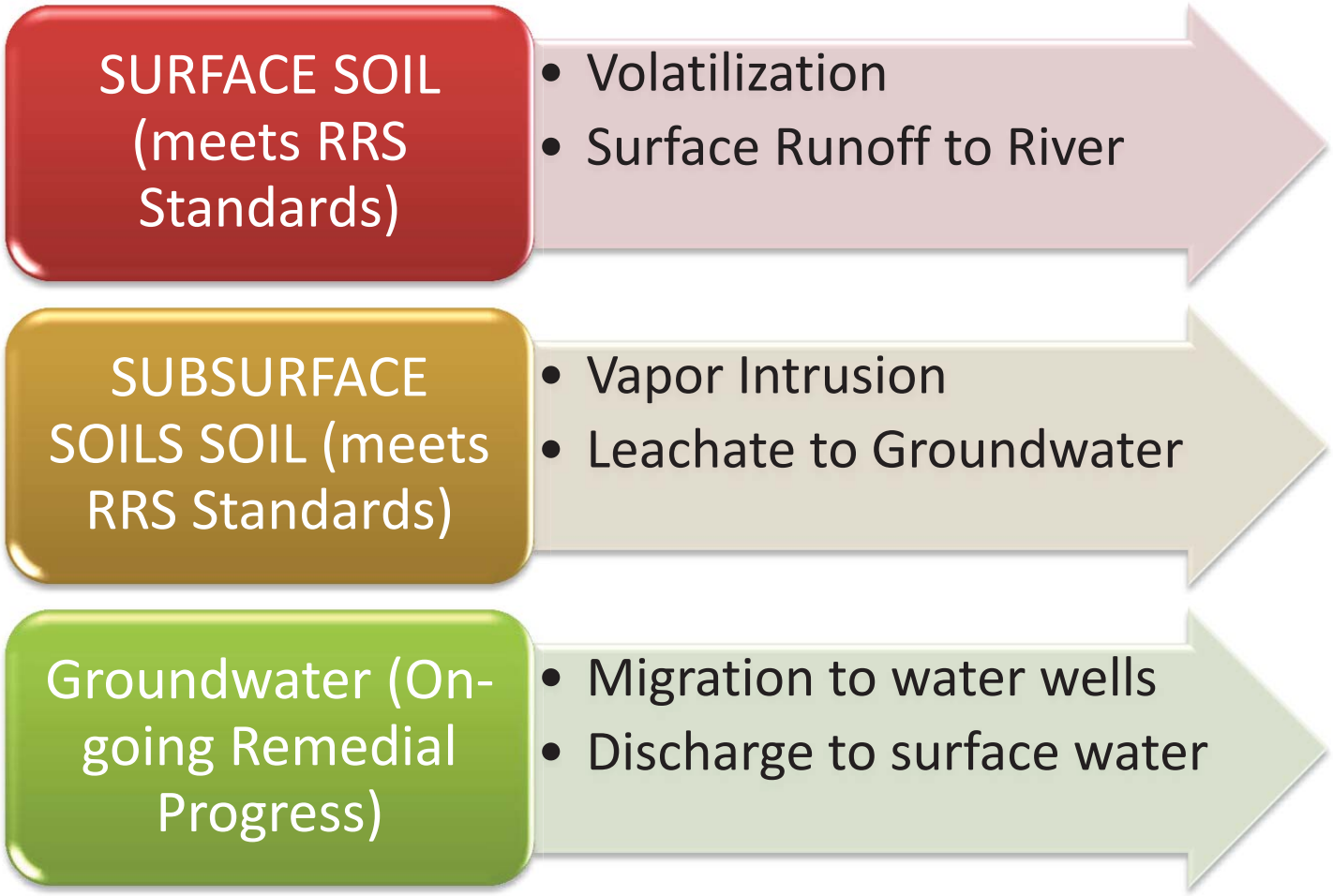
| | |
|---|---|
| SCALE: AS SHOWN | DATE: JANUARY 12, 2009 |
| PROJECT NO.: 110235 VOPAK | AutoCAD R-2002: 110235_Vopak 2009 Annual Report.DWG |

**FIGURE 2-9**

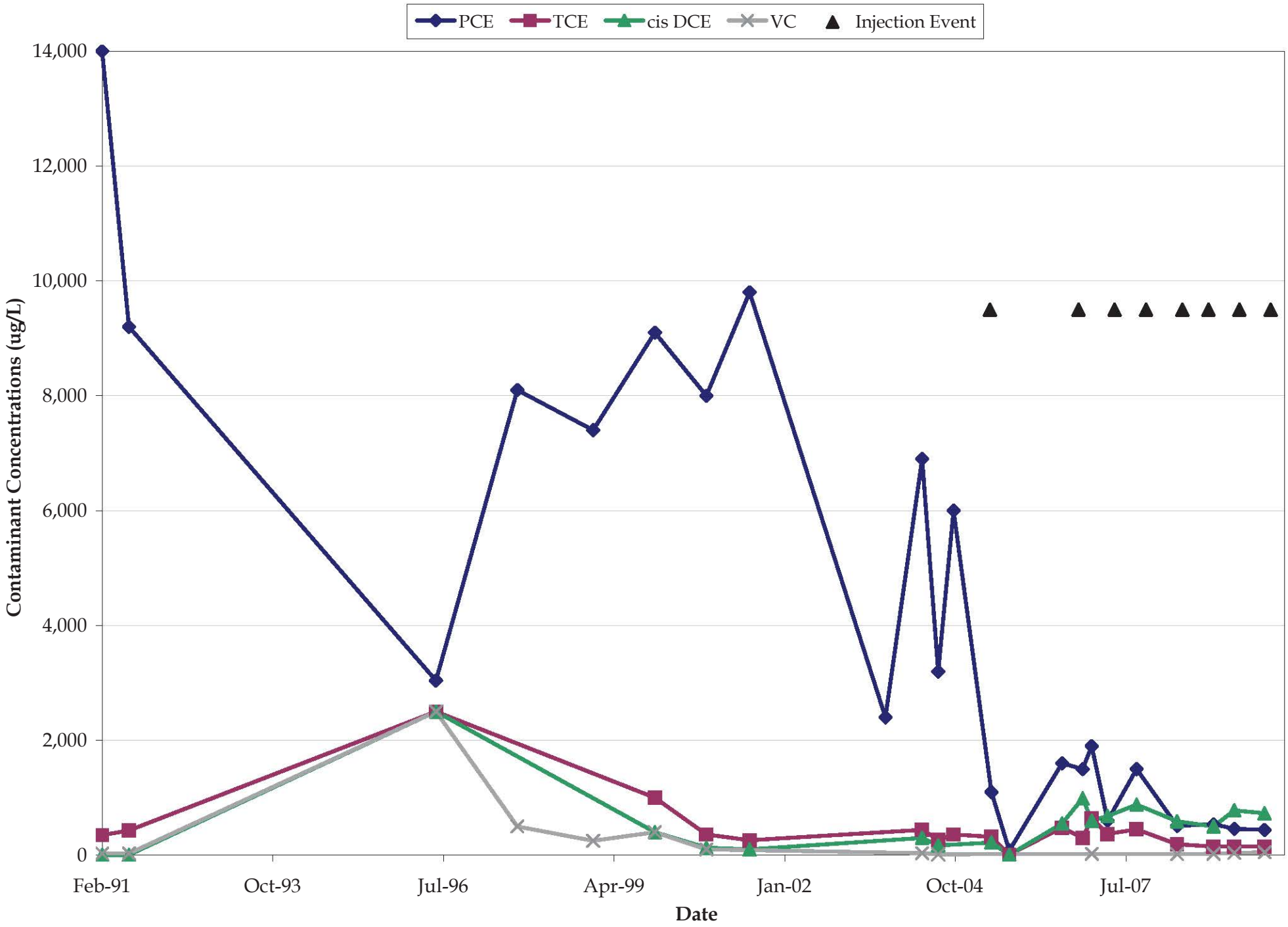
SHEET OF

110235_Vopak 2009 Annual Report.DWG 1/12/09 1=40 24x36 REV

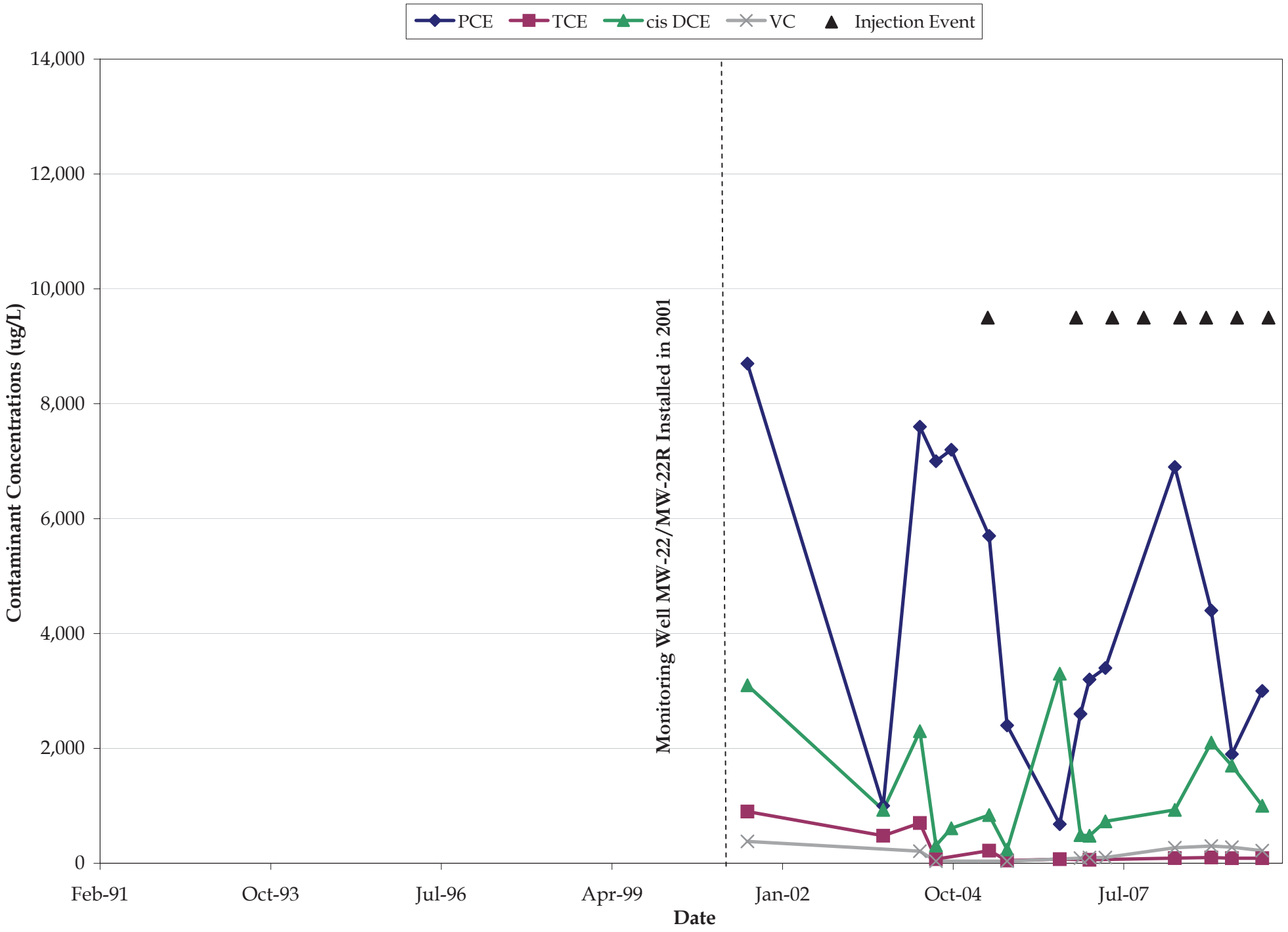
**Figure 2-10: Potential COC Migration Pathways**



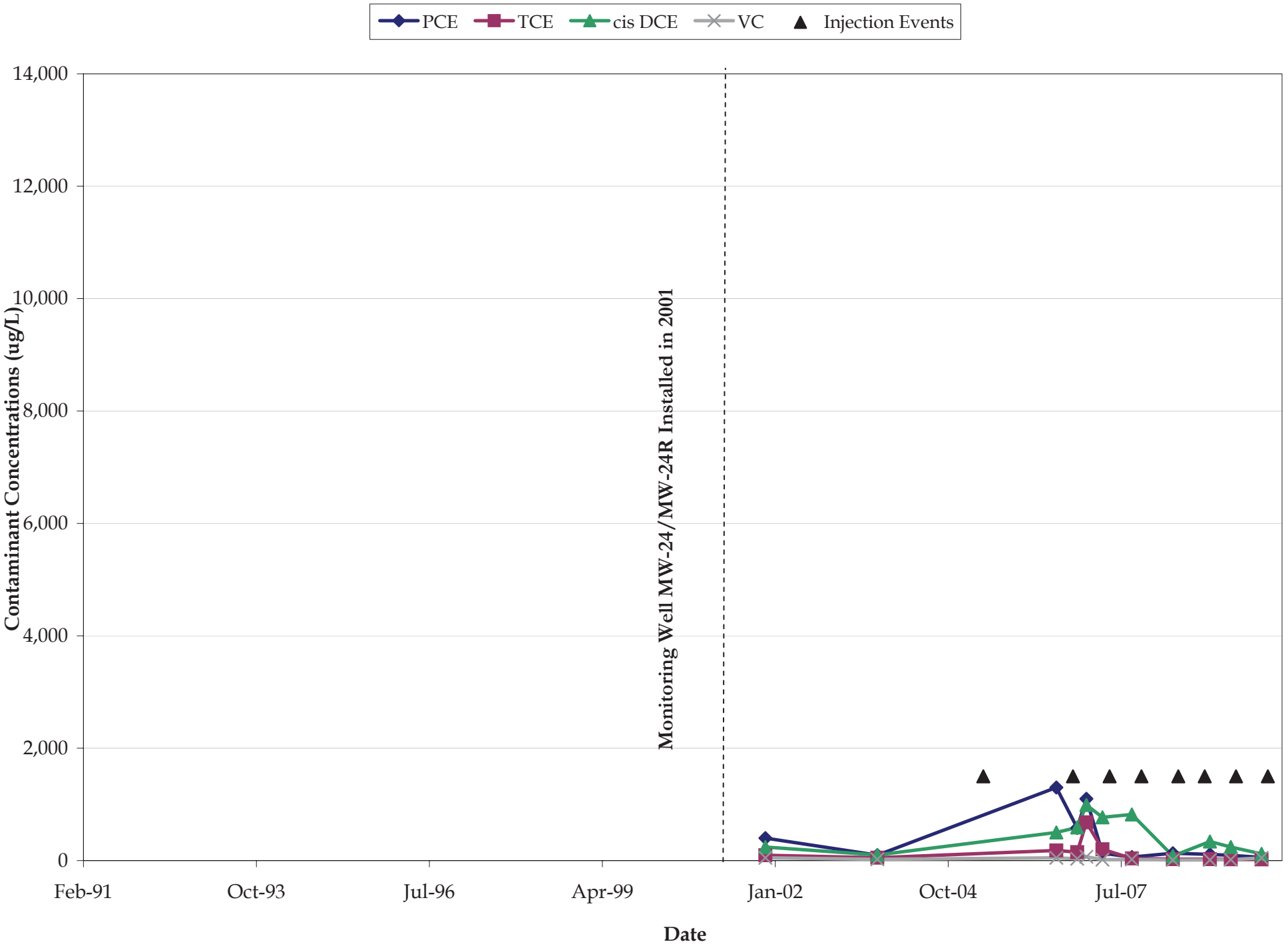
## Figure 3-1: PAN-MW-9 Recent Trends



## Figure 3-2: MW-22/MW-22R Recent Trends

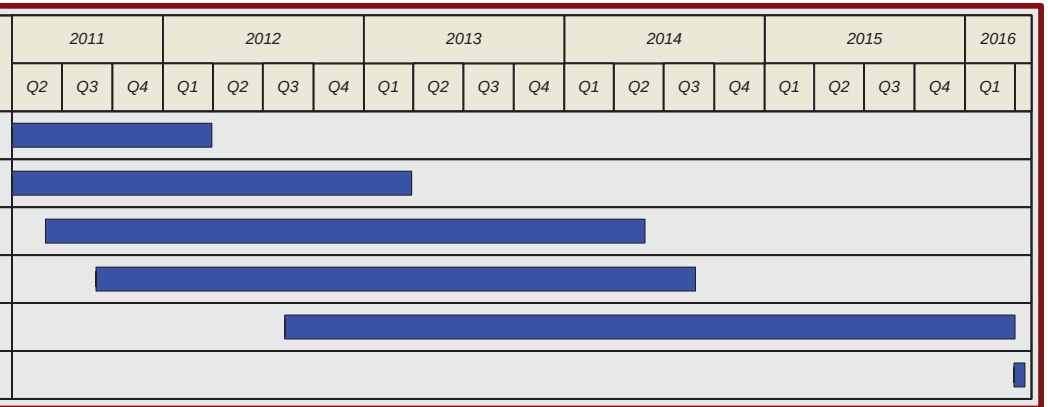


# Figure 3-3: MW-24/MW-24R Recent Trends



# FIGURE 5-1: PROJECTED SCHEDULE

| Step | Task Name | Start | Finish | Duration |
|---|---|---|---|---|
| 1 | Horizontal Delineation | 4/1/2011 | 3/29/2012 | 52w |
| 2 | Vertical Delineation | 4/1/2011 | 3/28/2013 | 104w |
| 3 | MNA Calibration | 6/1/2011 | 5/27/2014 | 156w |
| 4 | MNA Trend Analysis | 9/1/2011 | 8/27/2014 | 156w |
| 5 | MNA Closure | 8/10/2012 | 3/31/2016 | 190w |
| 6 | Site Closure | 3/30/2016 | 4/18/2016 | 2.8w |




Note: MNA-based remediation will be in process throughout the 4 steps

VRP APPLICATION (Revised)

# ATTACHMENT A

# VRP APPLICATION FORM AND CHECKLIST

# Voluntary Remediation Plan Application Form and Checklist

| VRP APPLICANT INFORMATION | | | | | |
|---|---|---|---|---|---|
| COMPANY NAME | VOPAK Terminal Savannah, Inc. | | | | |
| CONTACT PERSON/TITLE | Branden Jones, CSP SH & E Manager, East Coast | | | | |
| ADDRESS | PO Box 7390, Savannah, GA 31418-7390 | | | | |
| PHONE | 912-964-1811 x 114 | FAX | 912-965-9045 | E-MAIL | branden.jones@vopak.com |

| GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP | | | | | |
|---|---|---|---|---|---|
| NAME | Raj Mahadevaiah | | | GA PE/PG NUMBER | 23198 |
| COMPANY | Environmental International Corporation | | | | |
| ADDRESS | 161 Kimball Bridge Road, Suite 100, Alpharetta, GA 30009 | | | | |
| PHONE | 770-772-7100 | FAX | 770-772-0555 | E-MAIL | rajmahadevaiah@eicusa.com |

## APPLICANT'S CERTIFICATION

In order to be considered a qualifying property for the VRP:

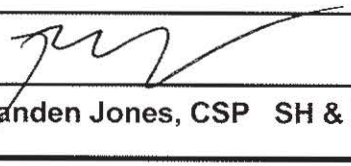
(1) The property must have a release of regulated substances into the environment;
(2) The property shall not be:
- (A) Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601.
- (B) Currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency; or
- (C) A facility required to have a permit under Code Section 12-8-66.

(3) Qualifying the property under this part would not violate the terms and conditions under which the division operates and administers remedial programs by delegation or similar authorization from the United States Environmental Protection Agency.
(4) Any lien filed under subsection (e) of Code Section 12-8-96 or subsection (b) of Code Section 12-13-12 against the property shall be satisfied or settled and released by the director pursuant to Code Section 12-8-94 or Code Section 12-13-6.

In order to be considered a participant under the VRP:
- (1) The participant must be the property owner of the voluntary remediation property or have express permission to enter another's property to perform corrective action.
- (2) The participant must not be in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the director.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify that this property is eligible for the Voluntary Remediation Program (VRP) as defined in Code Section 12-8-105 and I am eligible as a participant as defined in Code Section 12-8-106.

| | | | |
|---|---|---|---|
| APPLICANT'S SIGNATURE |  | | |
| APPLICANT'S NAME/TITLE (PRINT) | Branden Jones, CSP SH & E Manager, East Coast | DATE | 10/14/2010 |

| QUALIFYING PROPERTY INFORMATION | | | | |
|---|---|---|---|---|
| TAX PARCEL ID | Plat Book 11-P, Folio 197 | PROPERTY SIZE (ACRES) | 5.0434 | |
| PROPERTY ADDRESS | Georgia Ports Authority Gate No. 2, Turner and Hart Street | | | |
| CITY | Garden City | COUNTY | Chatham | |
| LATITUDE | 32◦ 07' 02" N | LONGITUDE | 81◦ 08' 17" W | |
| PROPERTY OWNER(S) | Georgia Ports Authority | PHONE # 912-964-3891 | | |
| MAILING ADDRESS | Mr. William Jakubsen, PO Box 2406 | | | |
| CITY | Savannah | STATE/ZIP | Georgia, 31402 | |

| ITEM # | DESCRIPTION OF REQUIREMENT | Location in VRP (i.e. pg., Table #, Figure #, etc.) | For EPD Comment Only (Leave Blank) |
|---|---|---|---|
| **1.** | **$5,000 APPLICATION FEE** IN THE FORM OF A CHECK PAYABLE TO THE GEORGIA DEPARTMENT OF NATURAL RESOURCES. | **Attached** | |
| **2.** | **WARRANTY DEED(S)** FOR QUALIFYING PROPERTY. | **Attachment A** | |
| **3.** | **TAX PLAT** OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S). | **Attachment B** | |
| **4.** | **ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES** OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT FORMAT (PDF). | **Attached** | |
| **5.** | The VRP participant's initial plan and application must include , using all reasonably available current information to the extent known at the time of application, a graphic three-dimensional preliminary conceptual site model (CSM) including a preliminary remediation plan with a table of delineation standards, brief supporting text, charts, and figures (no more than 10 pages, total) that illustrates the site's surface and subsurface setting, the known or suspected source(s) of contamination, how contamination might move within the environment, the potential human health and ecological receptors, and the complete or incomplete exposure pathways that may exist at the site; the preliminary CSM must be updated as the investigation and remediation progresses and an up-to-date CSM must be included in each semi-annual status report submitted to the director by the participant; a **PROJECTED MILESTONE SCHEDULE** for investigation and remediation of the site, and after enrollment as a participant, must update the schedule in each semi-annual status report to the director describing implementation of the plan during the preceding period. A Gantt chart format is preferred for the milestone schedule. | | |
| **5.a** | **Conceptual Site Model** | **Section 2; Tables 2-1 & 2-2; Figures 1-1 through 1-5, 2-1, 2-2** | |
| **5.b** | **Preliminary Remediation Plan** | **Section 4; Tables 2-1, 2-2, 3-1;** | |

| | | | |
|---|---|---|---|
| | | **Figures 2-2 & 3-1 through 3-3** | |
| **5.c** | **Table of Delineation Standards** | **Sections 1.3 & 4.5: Tables 4-1 through 4-6** | |
| **5.d** | **Supporting Text, Charts, and Figures which illustrate the following material:** | | |
| **i** | **Surface and Sub-surface Setting** | **Section 1: Figures 1-1 through 1-5** | |
| **ii** | **Known or Suspected Sources of Contamination** | **Section 2: Tables 2-1 & 2-2** | |
| **iii** | **Potential Movement of Contamination within the Environment** | **Section 2.4: Figures 1-5 & 2-2** | |
| **iv** | **Potential Human Health and Ecological Receptors** | **Section 2.5** | |
| **v** | **Complete and/or Incomplete Exposure Pathways** | **Section 2.3** | |
| **5.e** | **Projected Milestone Schedule** | **Section 5; Figure 5-1** | |
| | The following four (4) generic milestones are required in all initial plans with the results reported in the participant's next applicable semi-annual reports to the director. The director may extend the time for or waive these or other milestones in the participant's plan where the director determines, based on a showing by the participant, that a longer time period is reasonably necessary: | | |
| **i** | Within the first 12 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern on property where access is available at the time of enrollment; | **Section 5.1** | |
| **ii** | Within the first 24 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern extending onto property for which access was not available at the time of enrollment; | **Section 5.2** | |
| **iii** | Within 30 months after enrollment, the participant must update the site CSM to include vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions; and | **Section 5.3** | |
| **iv** | Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications. | **Section 5.4** | |
| | **SIGNED AND SEALED PE/PG CERTIFICATION** AND SUPPORTING DOCUMENTATION: | | |

| | | | |
|---|---|---|---|
| **6.** | **SIGNED AND SEALED PE/PG CERTIFICATION** AND SUPPORTING DOCUMENTATION:<br><br>"I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.<br><br>Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.<br><br>The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."<br><br>Basavaraj Mahadevaiah GA 23198<br>Printed Name and GA PE/PG Number<br><br>Signature and Stamp<br><br>10/14/10<br>Date | | |

VRP APPLICATION (Revised)

# ATTACHMENT B

# WARRANTY DEED

Eulaine Carnes
Notary Public, Chatham County, Ga.
Notarial Seal

Mrs. Pearl Foster (L.S.)
Clara B. Giles (L.S.)

Received for record April 9, 1949
Recorded April 14, 1949

lhlhlhlhlh

STATE OF GEORGIA
COUNTY OF FULTON

WHEREAS, on the 15th day of December, 1948, the STATE OF GEORGIA by quitclaim deed acquired from the UNITED STATES OF AMERICA, acting by and through its WAR ASSETS ADMINISTRATOR, title to a certain tract of land lying and being in the County of Chatham, State of Georgia, containing 407.59 acres, more or less, and known as the Medical Depot site in Chatham County, Georgia, adjacent to the Savannah River; said quitclaim deed being recorded in Record Book 48-F, Folio 272, in the Office of the Clerk of the Superior Court, Chatham County, Georgia, and at page 101 of Deeds to State Property book in the office of the Secretary of State of Georgia; and

WHEREAS, by section 4 of Act No. 174 (Senate Bill No. 55), approved by the Governor on February 17, 1949, the 1949 Session of the General Assembly authorized the Governor to convey for and in behalf of the State title to lands and improvements known as the Medical Depot site in Chatham County, Georgia, adjacent to the Savannah River, to the Georgia Ports Authority upon payment of such nominal sum to the State Treasurer as may be agreed upon by the Governor and the Authority.

NOW, THEREFORE, In consideration of the sum of $1000.00 (One Thousand) Dollars and for other valuable considerations paid to the Treasurer of the State of Georgia, as provided and in accordance with said Act No. 174, I, HERMAN TALMADGE, GOVERNOR OF THE STATE OF GEORGIA, and for and in behalf of the STATE OF GEORGIA, have bargained, sold and conveyed, and do by these presents bargain, sell, convey, remise, release, and forever quitclaim unto the GEORGIA PORTS AUTHORITY, its successors and assigns, all the right, title, interest, claim or demand which the State of Georgia has or may have had in or to the following described property, situate, lying and being in the County of Chatham, State of Georgia to wit:

ALL those tracts or parcels of land lying and being in Chatham County, Georgia containing 430.09 acres, being more particularly described as follows:

PARCEL NO. 1- Beginning at an iron pipe at the intersection of the Northern right-of-way of Brampton Road and the Eastern right-of-way line of the Savannah and Atlanta Railroad; thence with Eastern right-of-way of the Savannah and Atlanta Railroad North 26 deg. 25 min. 41 sec. West, 700.00 feet to a point; thence North 56 deg. 07 min. 37 sec. East 40.0 feet to a point on the Eastern right-of-way line of a railroad spur of the Savannah Warehouse and Compress Company; thence Northerly along curvature of said right-of-way line to a point which is North 03 deg. 45 min. 01 sec. West, 282.52 feet from the immediately preceding point; thence continue Northerly along the curvature of said right-of-way line to a point which is North 04 deg. 55 min. 24 sec. East, 267.99 feet from the immediately preceding point; thence Southerly along the curvature of the Western right-of-way line of another railroad spur of the Savannah Warehouse and Compress Company to a point which is South 51 deg. 11 min. 19 sec. East 236.14 feet from the immediately preceding point; thence continue Southerly along the curvature of said Western right-of-way line to a point which is South 33 deg. 07 min. 28 sec. East 227.81 feet from the immediately preceding point; thence North 56 deg. 07 min. 37 sec. East 49.7 feet to a point on the Eastern right-of-way line of railroad spur of the Savannah Warehouse and Compress Company; thence Northerly along the

curvature of said Eastern right-of-way to a point which is North 31 deg. 41 min. 49 sec. West, 215.5 feet from the immediately preceding point; thence continue Northerly along curvature of said right-of-way line to a point which is North 47 deg. 59 min, 35 sec. West, 275.9 feet from the immediately preceding point; thence continue Northerly along the curvature of said right-of-way line to a point which is North 21 deg. 20 min. 30 sec. West, 331.8 feet from the immediately preceding point; thence continue Northerly along the curvature of said right-of-way line to a point which is North 2 deg. 49 min. 14 sec. East 173.3 feet from the immediately preceding point; thence North 30 deg. 10 min. East 360.1 feet to a point; thence North 59 deg. 50 min. West, 76.0 feet to a point; thence South 44 deg. 48 min. 58 sec. West, 94.8 feet to a point; thence North 10 deg. 17 min. 14 sec. East, 928.8 feet to a pipe; thence North 06 deg. 09 min, 12 sec. East 2074.4 feet to a railroad iron; thence North 01 deg. 00 min. 48 sec. West, 900.0 feet to a point in center line of Pipemakers Canal; thence Easterly with the center line of said canal to a point on the low water line of the Western bank of Savannah River, said point being North 68 deg. 24 min. 47 sec. East 2945.1 feet from the immediately preceding point; thence Southerly 4300 feet along the low water line of Savannah River to a point which is South 27 deg.25 min. 50 sec. East 4238.0 feet from the immediately preceding point; thence South 56 deg. 07 min. 37 sec. West 3700.0 feet along the Northerly line of Brampton Road to the point of beginning, containing 426.25 acres, more or less.

PARCEL NO. 2- Commencing at an iron pipe at the intersection of the Northern right-of-way line of Brampton Road and the Eastern right-of-way line of the Savannah and Atlanta Railroad; thence North 26 deg. 25 min. 41 sec. West 765.0 feet to the point of beginning of herein described parcel; thence North 26 deg. 25 min. 41 sec. West 485.0 feet along the Eastern right of way line of the Savannah and Atlanta Railroad; thence Northerly along the curvature of the Eastern right of way line of the Chatham Terminal Company to a point which is North 06 deg. 13 min. 54 sec. East 335.8 feet from immediately preceding point; thence North 30 deg. 12 min. 20 sec. East 185.0 feet along the Southeastern right-of-way of the East track of Savannah Warehouse and Compress Company; thence Southerly along the curvature of the Western right-of-way line of a spur track of the Savannah Warehouse and Compress Company to a point which is South 13 deg. 15 min. 03 sec. East 318.5 feet from immediately preceding point; thence continuing Southerly along the curvature of said Western right-of-way line to a point which is South 05 deg. 31 min. 39 sec. East 280.3 feet from immediately preceding point; thence continuing Southerly along the curvature of said Western right-of-way line to the point of beginning, which is South 02 deg. 18 min. 27 sec. West 339.3 feet from immediately preceding point.

The above described tract is Lot 8 of the Industrial Subdivision of Savannah Warehouse and Compress Company and contains 2.78 acres, more or less.

PARCEL NO. 3- A certain tract or parcel of land, lying and being in Chatham County, Georgia, being more particularly described as follows:

Beginning at the intersection of the Eastern right-of-way line of U. S. Highway No. 17 and the Northern right-of-way line of the Savannah Warehouse and Compress Company's East track; thence North 06 deg. 05 min. 50 sec. East 442.5 feet along said Eastern right-of-way line of U. S. Highway No. 17; thence Easterly along the curvature of the Southern right-of-way line of the Savannah and Atlanta Railroad spur to the Savannah Warehouse and Compress Company to a point which is North 71 deg. 10 min. 55 sec. East 275.6 feet from immediately preceding point; thence South 30 deg. 12 min. 20 sec. West 612.0 feet along the Northern right-of-way line of the Savannah Warehouse and Compress Company's East tract to the point of beginning, containing 1.06 acres, more or less.

The above described parcel is Lot 7 of Industrial Subdivision of Savannah Warehouse & Compress Company.

Exception from said above described land the following described land and buildings,

to-wit:

A tract or parcel of land, situate and being in the County of Chatham, State of Georgia, being a portion of the Savannah Quartermaster Depot, and a portion of the tract of land formerly owned by the Savannah Warehouse and Compress Company, and containing 22.50 acres, more or less, being more particularly described as follows:

Beginning at a point at the intersection of center line of Rethers Street with line parallel to and 25 feet southerly from the southerly line of Building 3 (A-G); thence South 68 deg. 25 min. West, 1870 feet along the A.C.L. Railroad Spur to a point on a fence line West of Tomochichi Road; thence North 13 deg. 52 min. East 724 feet along the aforementioned fence line; thence North 68 deg. 25 min. East, 1450 feet along same fence line to the intersection of centerline of Rethers Street; thence South 21 deg. 35 min. East 590 feet along the centerline of Rethers Street to the point of beginning.

Buildings 49-B with adjacent wharf, containing 21,030 sq. ft., more or less, being more particularly described as follows:

Beginning at the intersection of Hart Street with the Southwest corner of Bldg. 49-B and approximately 10 feet southerly from the Southerly line of railroad spur; thence North 68 deg. 25 min. East 140 feet; thence South 17 deg. 58 min. East 160 feet; thence South 72 deg. 30 min. West 130 feet; thence North 21 deg. 35 min. West 151 feet to the point of beginning.

All bearings and distances are scaled from map of the U. S. Engineer Office, Savannah, Georgia, Drawing No. QMDS-1/702.

Buildings No. 1 (A-E inclusive), Building No. 3 (A-G inclusive) and Bldg. No. 49 with adjacent wharf are located on the aread described herein.

Together with all the personal property acquired and retained by the State of Georgia from the United States pursuant to and under the terms of the aforesaid quitclaim deed from the United States to the State of Georgia which quitclaim deed appears of record, as hereinbefore set out, in Record Book 48-F, Folio 272, in the office of the Clerk of the Superior Court of Chatham County, Georgia, the said personal property being listed in Schedule "A" attached to and made a part of the aforesaid quitclaim deed from the United States to the State of Georgia.

All said property, both real and personal, being the same property acquired by the State of Georgia from the United States of America, acting by and through its War Assets Administrator, by quitclaim deed which appears of record in Record Book 48-F, Folio 272, in the office of the Clerk of the Superior Court of Chatham County, Georgia, together with all the rights, members, and appurtenances to the said described premises in anywise appertaining or belonging, but for the following exceptions, which exceptions are the same as those contained in said deed from the United States of America to the State of Georgia, and are, to wit:

1. An Easement in favor of the City of Savannah, Georgia, to dig and excavate part of the land east of Pipemakers Creek.

2. Rights and Easements of railroad companies under an agreement dated October 20, 1916, as amended by an agreement dated June 24, 1942.

3. Outstanding rights of railroad companies under the railroad storage yard agreement dated November 17, 1919, as amended by agreement dated June 24, 1942.

4. Outstanding rights under an agreement dated September 25, 1925, as amended by agreement dated June 24, 1942.

5. Rights of Lindsay McMillan Company, or its successors and assigns, under an agreement in connection with the deed dated April 9, 1928.

6. All existing easements for public roads, highways, public utilities, railroads and pipelines.

7. All outstanding rights of third persons in and to that part of the land within Pipemakers Creek or Canal.

8. Joint use by the Department of the Army with party of the second part of Gibbins Road from entrance gate on Highway No. 17 to Tomochichi Road, thence to building 3-A; primary electric line from existing sub-station; existing water distribution system; existing sewer lines down Livingston Street to Savannah River; Rae's Hall Road around North side of requested area to Hart Street, to building No. 49-B, with adjacent wharf.

9. Easement from United States of America to Mayor and Aldermen of the City of Savannah dated July 16, 1948, for a water pipeline fifty (50) feet wide across the property hereinbefore described.

10. Any other outstanding rights appearing of record.

11. And further excepting from this conveyance certain mineral rights which have been reserved by the United States of America in accordance with Executive Order 9908, approved December 5, 1947, (12 F. R. 8223), being all uranium, thorium, and all other materials determined pursuant to section 5 (b) (1) of the Atomic Energy Act of 1946 (60 Stat. 761) to be peculiarly essential to the production of fissionable material, contained, in whatever concentration, in deposits in the lands covered by this instrument, which are hereby reserved for the use of the United States, together with the right of the United States through its authorized agents or representatives at any time to enter upon the land and prospect for, mine, and remove the same, making just compensation for any damage or injury occasioned thereby. However, such land may be used, and any rights otherwise acquired by this disposition may be exercised, as if no reservation of such materials had been made; except that, when such use results in the extraction of any such material from the land in quantities which may not be transferred or delivered without a license under the Atomic Energy Act of 1946, as it now exists or may hereafter be amended, such material shall be the property of the United States Atomic Energy Commission, and the Commission may require delivery of such material to it by any possessor thereof after such material has been separated as such from the ores in which it was contained. If the Commission requires the delivery of such material to it, it shall pay to the person mining or extracting the same, or to such other person as the Commission determines to be entitled thereto, such sums, including profits, as the Commission deems fair and reasonable for the discovery, mining, development, production, extraction, and other services performed with respect to such material prior to such delivery, but such payment shall not include any amount on account of the value of such material before removal from its place of deposit in nature. If the Commission does not require delivery of such material to it, the reservation hereby made shall be of no further force or effect.

TO HAVE AND TO HOLD the said described premises unto the GEORGIA PORTS AUTHORITY, its successors and assigns, so that neither the STATE OF GEORGIA nor its assigns, nor any person or persons claiming under it shall at any time claim or demand any right, title, or interest to the described premises or its appurtenances.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the State of Georgia this the 29 day of March, 1949.

Signed, sealed and delivered
in the presence of:
Gladys Creal
Notary Public, Georgia, State at Large.
My commission Expires Jan. 9, 1950
Notarial Seal

Herman E. Talmadge (L.S.)
Governor of the State of Georgia
SEAL OF THE STATE OF GEORGIA

Benton Odom
Joe N. Burton N. P.
(Witness as to Secretary of State and affixing of Seal)
Notorial Seal

BY THE GOVERNOR:
Ben. W. Fortson Jr.
Secretary of State

This Deed approved as to form, substance and title, this the 11 day of April 1949

# 2010 Chatham County Board of Assessors

# 1-0618 -01-003L

## Property Record Card

 Requested By: READONLY 7/2/2010

**BRAMPTON RD SAVANNAH**

| | | | | CAMA | ASMT | | |
|---|---|---|---|---|---|---|---|
| APPRAISER | swcorcor | IMPTS ONLY ON STATE PORT AUTH PROPERTY | SOUTHLAND OIL CO | 0 | 0 | LAND | 1 |
| LAST INSP | 04/27/2010 | | C/O RASH #698-10-820 | 229,300 | 229,300 | BLDG | 9 |
| APPR ZONE | 000009 | | PO BOX 260888 | 4,193,100 | 4,193,100 | OBXF | 53 |
| | | | PLANO, TX 75026-0888 | 4,422,400 | 4,422,400 | Cost - MS | |

**SALES**

| BOOK / PAGE | INS | VI | QU | RSN | PRICE |
|---|---|---|---|---|---|
| | | | | | - |

**PERMITS**

| TYPE | DATE | AMOUNT |
|---|---|---|

**CODES**

| | | |
|---|---|---|
| PROPERTY USE | 0004 | Industrial |
| UTA | 0001 | Unincorporated |
| NBHD | 009900.00 | I900 Waterfront(Hvy |
| EXEMPTIONS | | |
| COMMCATEG | 4500 | Manufacturing light |

**HISTORY**

| | LAND | IMPR | TOTAL | |
|---|---|---|---|---|
| 2010 | | 4,422,400 | 4,422,400 | Cama |
| 2009 | | 5,271,500 | 5,271,500 | Over |
| 2008 | | | 5,271,500 | A/C |
| 2007 | | 3,672,000 | 3,672,000 | Cama |
| 2006 | | 3,672,000 | 3,672,000 | Cama |

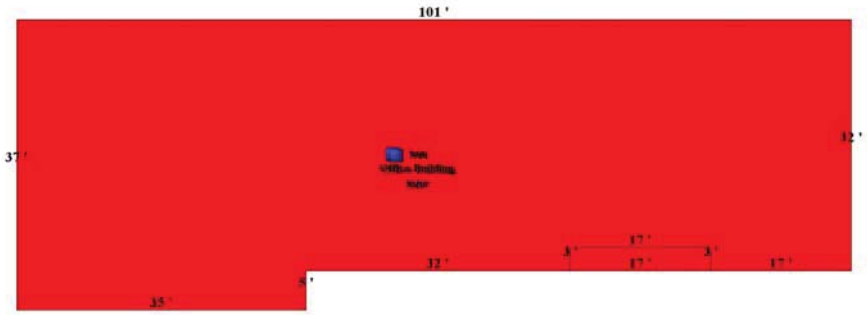
COMMENTS

| | |
|---|---|
| 3/25/2010 | 03/25/2010 REVIEWED AND TAKEN OFF OVER-RIDE PER RETURN AND NEW INFORMATION. SWC. |
| 3/24/2010 | 03/24/2010 UPDATED TANK DATA PER INFORMATION PROVIDED. SWC. |
| 3/8/2010 | TY010 RET VAL ENT |

NOTES

**BUILDING SECTION 22010-1**

| CONSTRUCTION TYPE | RCN | AYB | EYB | DEP TYPE | PHYS | ECON | FUNC | OBSV / % | TOTAL DEP % | RCNLD | U.FACTOR | MKT VAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | 838,882 | 1959 | 1959 | MS | 80.00 | 0.00 | 0.00 | 0.00 | 80.00 | 167,776 | 1.00 | 167,776 |




| | |
|---|---|
| AREA | 6,763 |
| STORIES | 2.0 |
| PERIMETER / SHAPE | 558 |

**OCCUPANCIES**

| | AREA | % | CLASS | HEIGHT | QUAL |
|---|---|---|---|---|---|
| 344 Office Building | 3,407 | 50.38 | D | 9.00 | 3.00 |
| 344 Office Building | 3,356 | 49.62 | D | 9.00 | 3.00 |

**COMPONENTS**

| | | | UNITS | % | QUAL |
|---|---|---|---|---|---|
| C1 | 882 | Stud -Brick Veneer | - | 100.00 | |
| C2 | 611 | Package Unit | - | 100.00 | |

*Office (Building #1). Two stories; 4" face brick on wood frame; 9' height per floor; built in 1959; reinforced concrete slab; wood plank flooring upstairs; six plumbing fixtures; conduit wiring & fluorescent lighting; central forced air heating and cooling; suspended tile ceiling; vinyl tile flooring; drywall & wood panel partitions; double pitch asphalt shingle roofing. http://www.vopakamericas.com/*

**EXTRA FEATURES**

| ID# | BLDG # | SYSTEM DESC | DIM 1 | DIM 2 | UNITS | QL | UNIT PRICE | RCN | AYB | EYB | DT | ECON | FUNC | SP | SP% | RCNLD | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43601 | | CAN STY 14 ST AVG | 62 | 32 | 1,984.00 | 3 | 24.25 | 48,112 | 1955 | 1955 | 35 | | | | | 9,622 | 8,700 |
| 43602 | 22020 | CAN STY 14 ST AVG | 37 | 75 | 2,775.00 | 3 | 24.25 | 67,294 | 1969 | 1969 | 35 | | | | | 13,459 | 12,100 |
| 43603 | 22020 | Uncoded Feature | 6 | 6 | 36.00 | 3 | 127.44 | 4,588 | 1969 | 1969 | 35 | | | | | 918 | 800 |
| | | *Description=Service Booth Section 64, Page 2* | | | | | | | | | | | | | | | |
| 177133 | | Uncoded Feature | 10 | 10 | 100.00 | A | 32.93 | 3,293 | 2009 | 2009 | 20 | | | | | 3,194 | 2,900 |
| | | *GUARD HOUSE SECTION 17 PAGE 15* | | | | | | | | | | | | | | | |
| 177134 | | Uncoded Feature | 0 | 0 | 1.00 | A | 415,950.00 | 415,950 | 1951 | 1951 | | | | OC | 50.00 | 207,975 | 187,200 |
| | | *TANK #1 55,000 BBLS 1951 S61 P5* | | | | | | | | | | | | | | | |
| 177135 | | Uncoded Feature | 0 | 0 | 1.00 | A | 415,950.00 | 415,950 | 1951 | 1951 | | | | OC | 50.00 | 207,975 | 187,200 |
| | | *TANK #2 55,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177136 | | Uncoded Feature | 0 | 0 | 1.00 | A | 415,950.00 | 415,950 | 1951 | 1951 | | | | OC | 50.00 | 207,975 | 187,200 |
| | | *TANK 5 55,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177137 | | Uncoded Feature | 0 | 0 | 1.00 | A | 415,950.00 | 415,950 | 1951 | 1951 | | | | OC | 50.00 | 207,975 | 187,200 |
| | | *TANK 6 55,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |

**LAND**

| ID# | USE DESC | FRONT | DEPTH | UNITS / TYPE | PRICE | ZONING | SIZE | LCTN | TOPO | OTHER | ADJ1 | ADJ2 | ADJ3 | ADJ4 | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25688 | INDUSTRIAL | 0 | 0 | 1.000 G | 0.00 | I-H | 1.00 | | | | | | | | 0 |

| | | | | CAMA | ASMT | | |
|---|---|---|---|---|---|---|---|
| APPRAISER | swcorcor | IMPTS ONLY ON STATE PORT AUTH PROPERTY | SOUTHLAND OIL CO | 0 | 0 | LAND | 1 |
| LAST INSP | 04/27/2010 | | C/O RASH #698-10-820 | 229,300 | 229,300 | BLDG | 9 |
| APPR ZONE | 000009 | | PO BOX 260888 | 4,193,100 | 4,193,100 | OBXF | 53 |
| | | | PLANO, TX 75026-0888 | 4,422,400 | 4,422,400 | Cost - MS | |

**SALES**

| BOOK / PAGE | INS | VI | QU | RSN | PRICE |
|---|---|---|---|---|---|

**PERMITS**

| TYPE | DATE | AMOUNT |
|---|---|---|

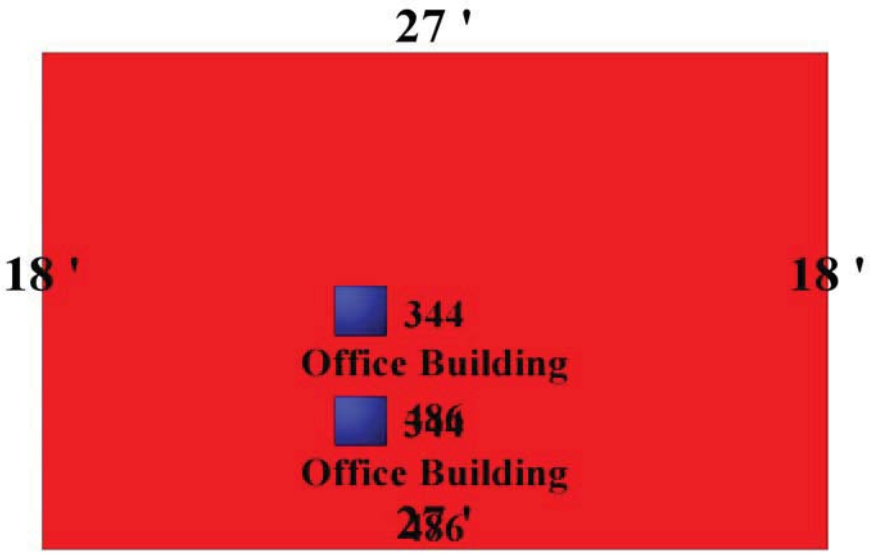
**CODES**

| | | |
|---|---|---|
| PROPERTY USE | 0004 | Industrial |
| UTA | 0001 | Unincorporated |
| NBHD | 009900.00 | I900 Waterfront(Hvy |
| EXEMPTIONS | | |
| COMMCATEG | 4500 | Manufacturing light |

**HISTORY**

| | LAND | IMPR | TOTAL | |
|---|---|---|---|---|
| 2005 | | 3,672,000 | 3,672,000 | Cama |
| 2004 | | 3,686,000 | 3,686,000 | Cama |
| 2003 | | 3,686,000 | 3,686,000 | Cama |
| 2002 | | 3,686,000 | 3,686,000 | Cama |
| 2001 | | 3,738,000 | 3,738,000 | Cama |

| BUILDING SECTION | CONSTRUCTION TYPE | RCN | AYB | EYB | DEP TYPE | PHYS | ECON | FUNC | OBSV / % | TOTAL DEP % | RCNLD | U.FACTOR | MKT VAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22011-1 | Commercial | 71,724 | 1960 | 1960 | MS | 80.00 | 0.00 | 0.00 | 0.00 | 80.00 | 14,345 | 1.00 | 14,345 |




| | |
|---|---|
| AREA | 972 |
| STORIES | 2.0 |
| PERIMETER / SHAPE | 180 |

**OCCUPANCIES**

| | AREA | % | CLASS | HEIGHT | QUAL |
|---|---|---|---|---|---|
| 344 Office Building | 486 | 50.00 | C | 9.00 | 1.00 |
| 344 Office Building | 486 | 50.00 | C | 9.00 | 1.00 |

**COMPONENTS**

| | UNITS | % | QUAL |
|---|---|---|---|
| C1 812 Concrete Block | - | 100.00 | |

*Office (Building #2). Two stories; concrete block; 9' height per floor; built in 1960; painted 8" concrete block walls; reinforced concrete slab; wood plank flooring up-stairs; conduit wiring & fluorescent lighting; flat type composition roof. Located adjoining Building #3. Refer to "DRAW" Screen #4 for a "Plot Plan" showing the relative position of these two structures.*

**EXTRA FEATURES**

| ID# | BLDG # | SYSTEM DESC | DIM 1 | DIM 2 | UNITS | QL | UNIT PRICE | RCN | AYB | EYB | DT | ECON | FUNC | SP | SP% | RCNLD | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 177138 | | Uncoded Feature | 0 | 0 | 1.00 | A | 569,600.00 | 569,600 | 1951 | 1951 | | | | OC | 50.00 | 284,800 | 256,300 |
| | | *TANK 8 80,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177139 | | Uncoded Feature | 0 | 0 | 1.00 | A | 569,600.00 | 569,600 | 1951 | 1951 | | | | OC | 50.00 | 284,800 | 256,300 |
| | | *TANK 9 80,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177140 | | Uncoded Feature | 0 | 0 | 1.00 | A | 415,950.00 | 415,950 | 1951 | 1951 | | | | OC | 50.00 | 207,975 | 187,200 |
| | | *TANK 10 55,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177141 | | Uncoded Feature | 0 | 0 | 1.00 | A | 415,950.00 | 415,950 | 1955 | 1955 | | | | OC | 50.00 | 207,975 | 187,200 |
| | | *TANK 11 55,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177142 | | Uncoded Feature | 0 | 0 | 1.00 | A | 206,250.00 | 206,250 | 1955 | 1955 | | | | OC | 50.00 | 103,125 | 92,800 |
| | | *TANK 16 20,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177143 | | Uncoded Feature | 0 | 0 | 1.00 | A | 206,250.00 | 206,250 | 1955 | 1955 | | | | OC | 50.00 | 103,125 | 92,800 |
| | | *TANK 17 20,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177144 | | Uncoded Feature | 0 | 0 | 1.00 | A | 206,250.00 | 206,250 | 1951 | 1951 | | | | OC | 20.00 | 41,250 | 37,100 |
| | | *TANK 7 20,000 BBLS SECTION 61 PAGE 5 OUT OF SERVICE* | | | | | | | | | | | | | | | |

**LAND**

| ID# | USE DESC | FRONT | DEPTH | UNITS / TYPE | PRICE | ZONING | SIZE | LCTN | TOPO | OTHER | ADJ1 | ADJ2 | ADJ3 | ADJ4 | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

# 2010 Chatham County Board of Assessors

# 1-0618 -01-003L

## Property Record Card

 Requested By: READONLY 7/2/2010

**BRAMPTON RD SAVANNAH**

| | | | | CAMA | ASMT | | |
|---|---|---|---|---|---|---|---|
| APPRAISER | swcorcor | IMPTS ONLY ON STATE PORT AUTH PROPERTY | SOUTHLAND OIL CO | 0 | 0 | LAND | 1 |
| LAST INSP | 04/27/2010 | | C/O RASH #698-10-820 | 229,300 | 229,300 | BLDG | 9 |
| APPR ZONE | 000009 | | PO BOX 260888 | 4,193,100 | 4,193,100 | OBXF | 53 |
| | | | PLANO, TX 75026-0888 | 4,422,400 | 4,422,400 | Cost - MS | |

**SALES**

| BOOK / PAGE | INS | VI | QU | RSN | PRICE |
|---|---|---|---|---|---|

**PERMITS**

| TYPE | DATE | AMOUNT |
|---|---|---|

**CODES**

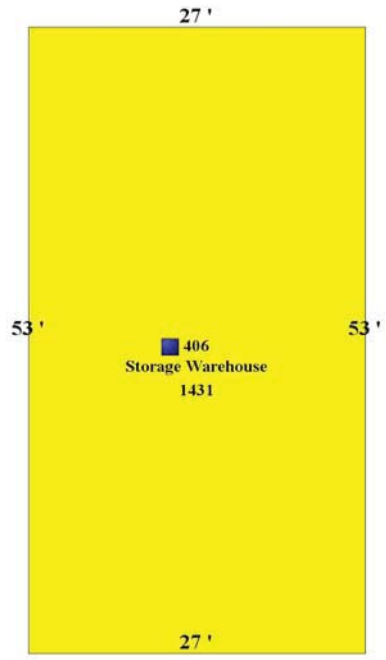
| | | |
|---|---|---|
| PROPERTY USE | 0004 | Industrial |
| UTA | 0001 | Unincorporated |
| NBHD | 009900.00 | I900 Waterfront(Hvy |
| EXEMPTIONS | | |
| COMMCATEG | 4500 | Manufacturing light |

**HISTORY**

| | LAND | IMPR | TOTAL | |
|---|---|---|---|---|
| 2000 | | 3,738,000 | 3,738,000 | Cama |
| 1999 | | 3,738,000 | 3,738,000 | Cama |
| 1998 | | 3,739,500 | 3,739,500 | Cama |
| 1997 | | 3,762,000 | 3,762,000 | Cama |
| 1996 | | 3,769,830 | 3,769,830 | Cama |

**BUILDING SECTION** 22012-1

| CONSTRUCTION TYPE | RCN | AYB | EYB | DEP TYPE | PHYS | ECON | FUNC | OBSV / % | TOTAL DEP % | RCNLD | U.FACTOR | MKT VAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | 62,206 | 1960 | 1960 | MS | 80.00 | 0.00 | 0.00 | 0.00 | 80.00 | 12,441 | 1.00 | 12,441 |




| | |
|---|---|
| AREA | 1,431 |
| STORIES | 1.0 |
| PERIMETER / SHAPE | 160 |

**OCCUPANCIES**

| | AREA | % | CLASS | HEIGHT | QUAL |
|---|---|---|---|---|---|
| 406 Storage Warehouse | 1,431 | ###### | C | 18.00 | 2.00 |

**COMPONENTS**

| | UNITS | % | QUAL |
|---|---|---|---|
| C1 812 Concrete Block | - | 100.00 | |

*Warehouse (Building #3). One story concrete block; 18' height; built in 1960; painted 8" concrete block walls; reinforced concrete slab; conduit wiring & fluorescent lighting; flat type composition roof. Located adjoining Building #2. Refer to "DRAW" Screen #4 for a "Plot Plan" showing the relative position of these two structures. http://www.vopakamericas.com/*

**EXTRA FEATURES**

| ID# | BLDG # | SYSTEM DESC | DIM 1 | DIM 2 | UNITS | QL | UNIT PRICE | RCN | AYB | EYB | DT | ECON | FUNC | SP | SP% | RCNLD | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 177145 | | Uncoded Feature | 0 | 0 | 1.00 | A | 206,250.00 | 206,250 | 1955 | 1955 | | | | OC | 50.00 | 103,125 | 92,800 |
| | | *TANK 18 20,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177146 | | Uncoded Feature | 0 | 0 | 1.00 | A | 206,250.00 | 206,250 | 1955 | 1955 | | | | OC | 50.00 | 103,125 | 92,800 |
| | | *TANK 19 20,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177147 | | Uncoded Feature | 0 | 0 | 1.00 | A | 97,250.00 | 97,250 | 1958 | 1958 | | | | OC | 50.00 | 48,625 | 43,800 |
| | | *TANK 23 5,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177148 | | Uncoded Feature | 0 | 0 | 1.00 | A | 97,250.00 | 97,250 | 1958 | 1958 | | | | OC | 50.00 | 48,625 | 43,800 |
| | | *TANK 24 5,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177149 | | Uncoded Feature | 0 | 0 | 1.00 | A | 97,250.00 | 97,250 | 1958 | 1958 | | | | OC | 50.00 | 48,625 | 43,800 |
| | | *TANK 25 5,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177150 | | Uncoded Feature | 0 | 0 | 1.00 | A | 97,250.00 | 97,250 | 1958 | 1958 | | | | OC | 50.00 | 48,625 | 43,800 |
| | | *TANK 26 5,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177151 | | Uncoded Feature | 0 | 0 | 1.00 | A | 97,250.00 | 97,250 | 1958 | 1958 | | | | OC | 50.00 | 48,625 | 43,800 |
| | | *TANK 27 5,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |

**LAND**

| ID# | USE DESC | FRONT | DEPTH | UNITS / TYPE | PRICE | ZONING | SIZE | LCTN | TOPO | OTHER | ADJ1 | ADJ2 | ADJ3 | ADJ4 | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | CAMA | ASMT | | |
|---|---|---|---|---|---|---|---|
| APPRAISER | swcorcor | IMPTS ONLY ON STATE PORT AUTH PROPERTY | SOUTHLAND OIL CO | 0 | 0 | LAND | 1 |
| LAST INSP | 04/27/2010 | | C/O RASH #698-10-820 | 229,300 | 229,300 | BLDG | 9 |
| APPR ZONE | 000009 | | PO BOX 260888 | 4,193,100 | 4,193,100 | OBXF | 53 |
| | | | PLANO, TX 75026-0888 | 4,422,400 | 4,422,400 | Cost - MS | |

**SALES**

| BOOK / PAGE | INS | VI | QU | RSN | PRICE |
|---|---|---|---|---|---|

**PERMITS**

| TYPE | DATE | AMOUNT |
|---|---|---|

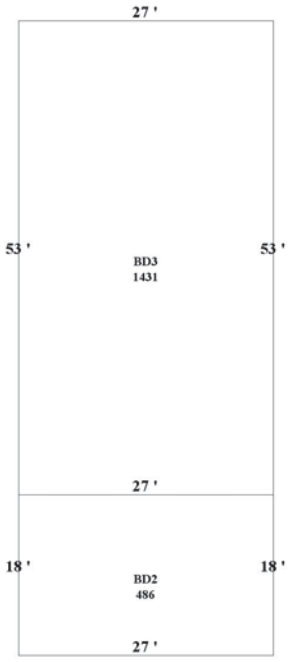
**CODES**

| | | |
|---|---|---|
| PROPERTY USE | 0004 | Industrial |
| UTA | 0001 | Unincorporated |
| NBHD | 009900.00 | I900 Waterfront(Hvy |
| EXEMPTIONS | | |
| COMMCATEG | 4500 | Manufacturing light |

**HISTORY**

| | LAND | IMPR | TOTAL |
|---|---|---|---|
| 1995 | | 3,876,850 | 3,876,850 Over |
| 1994 | | 3,876,850 | 3,876,850 Over |
| 1993 | | 2,581,080 | 2,581,080 Over |
| 1992 | | 2,581,080 | 2,581,080 Over |

| BUILDING SECTION | CONSTRUCTION TYPE | RCN | AYB | EYB | DEP TYPE | PHYS | ECON | FUNC | OBSV / % | TOTAL DEP % | RCNLD | U.FACTOR | MKT VAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22013-1 | Drawing Only | 0 | | | MS | 0.00 | 0.00 | 0.00 | 0.00 | | 0 | | 0 |




*"DRAW" Screen #4 - "Plot Plan". BD2 represents Building #2. BD3 represents Building #3. http://www.vopakamericas.com/*

| | | |
|---|---|---|
| SECTION TYPE | 1 - Main | |
| AREA | 0 | |
| TYPE | - | |
| FRAME | - | |
| STYLE | - | % |
| QUALITY | 0.00 | |
| CONDITION | 0.00 | |
| # UNITS | 0 | |
| # OF BEDS / BATHS | 0 / 0.00 | |

**EXTRA FEATURES**

| ID# | BLDG # | SYSTEM DESC | DIM 1 | DIM 2 | UNITS | QL | UNIT PRICE | RCN | AYB | EYB | DT | ECON | FUNC | SP | SP% | RCNLD | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 177152 | | Uncoded Feature | 0 | 0 | 1.00 | A | 139,000.00 | 139,000 | 1958 | 1958 | | | | OC | 20.00 | 27,800 | 25,000 |
| | | *TANK 28 10,000 BBLS SECTION 61 PAGE 5 OUT OF SERVICE* | | | | | | | | | | | | | | | |
| 177153 | | Uncoded Feature | 0 | 0 | 1.00 | A | 139,000.00 | 139,000 | 1958 | 1958 | | | | OC | 50.00 | 69,500 | 62,600 |
| | | *TANK 29 10,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177154 | | Uncoded Feature | 0 | 0 | 1.00 | A | 139,000.00 | 139,000 | 1958 | 1958 | | | | OC | 50.00 | 69,500 | 62,600 |
| | | *TANK 31 10,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177155 | | Uncoded Feature | 0 | 0 | 1.00 | A | 139,000.00 | 139,000 | 1958 | 1958 | | | | OC | 50.00 | 69,500 | 62,600 |
| 177156 | | Uncoded Feature | 0 | 0 | 1.00 | A | 6,500.00 | 6,500 | 1958 | 1958 | | | | OC | 50.00 | 3,250 | 2,900 |
| | | *TANK 33 6,500 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177157 | | Uncoded Feature | 0 | 0 | 1.00 | A | 139,000.00 | 139,000 | 1958 | 1958 | | | | OC | 50.00 | 69,500 | 62,600 |
| | | *TANK 34 10,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177158 | | Uncoded Feature | 0 | 0 | 1.00 | A | 139,000.00 | 139,000 | 1958 | 1958 | | | | OC | 50.00 | 69,500 | 62,600 |
| | | *TANK 35 10,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |

**LAND**

| ID# | USE DESC | FRONT | DEPTH | UNITS / TYPE | PRICE | ZONING | SIZE | LCTN | TOPO | OTHER | ADJ1 | ADJ2 | ADJ3 | ADJ4 | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | |
|---|---|
| APPRAISER | swcorcor |
| LAST INSP | 04/27/2010 |
| APPR ZONE | 000009 |

IMPTS ONLY ON STATE PORT AUTH PROPERTY

SOUTHLAND OIL CO
C/O RASH #698-10-820
PO BOX 260888
PLANO, TX 75026-0888

| CAMA | ASMT | | |
|---|---|---|---|
| 0 | 0 | LAND | 1 |
| 229,300 | 229,300 | BLDG | 9 |
| 4,193,100 | 4,193,100 | OBXF | 53 |
| 4,422,400 | 4,422,400 | Cost - MS | |

**SALES** BOOK / PAGE INS VI QU RSN PRICE

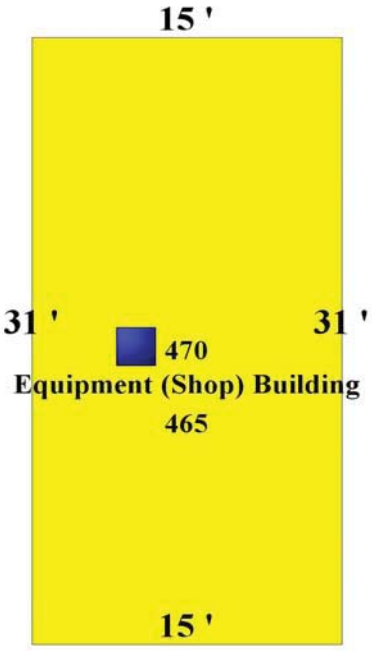
**PERMITS** TYPE DATE AMOUNT

**CODES**

| | | |
|---|---|---|
| PROPERTY USE | 0004 | Industrial |
| UTA | 0001 | Unincorporated |
| NBHD | 009900.00 | I900 Waterfront(Hvy |
| EXEMPTIONS | | |
| COMMCATEG | 4500 | Manufacturing light |

**HISTORY** LAND IMPR TOTAL

| BUILDING SECTION | CONSTRUCTION TYPE | RCN | AYB | EYB | DEP TYPE | PHYS | ECON | FUNC | OBSV / % | TOTAL DEP % | RCNLD | U.FACTOR | MKT VAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22015-1 | Commercial | 15,429 | 1955 | 1955 | MS | 80.00 | 0.00 | 0.00 | 0.00 | 80.00 | 3,086 | 1.00 | 3,086 |




*Engine Building (Building #6). One story metal; 20' height; built in 1955; space heat; no plumbing fixtures.*

| | |
|---|---|
| AREA | 465 |
| STORIES | 1.0 |
| PERIMETER / SHAPE | 92 |

**OCCUPANCIES**

| | | AREA | % | CLASS | HEIGHT | QUAL |
|---|---|---|---|---|---|---|
| 470 | Equipment (Shop) Buildir | 465 | ###### | S | 20.00 | 2.00 |

**COMPONENTS**

| | | | UNITS | % | QUAL |
|---|---|---|---|---|---|
| C1 | 888 | Stud -Metal Siding | - | 100.00 | |
| C2 | 606 | Space Heater | - | 100.00 | |

**EXTRA FEATURES**

| ID# | BLDG # | SYSTEM DESC | DIM 1 | DIM 2 | UNITS | QL | UNIT PRICE | RCN | AYB | EYB | DT | ECON | FUNC | SP | SP% | RCNLD | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 177159 | | Uncoded Feature | 0 | 0 | 1.00 | A | 97,250.00 | 97,250 | 1958 | 1958 | | | | OC | 50.00 | 48,625 | 43,800 |
| | | *TANK 36 5,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177160 | | Uncoded Feature | 0 | 0 | 1.00 | A | 153,300.00 | 153,300 | 1958 | 1958 | | | | OC | 50.00 | 76,650 | 69,000 |
| | | *TANK 37 12,000 BBLS SECTION 61, PAGE 5* | | | | | | | | | | | | | | | |
| 177161 | | Uncoded Feature | 0 | 0 | 1.00 | A | 103,450.00 | 103,450 | 1958 | 1958 | | | | OC | 50.00 | 51,725 | 46,600 |
| | | *TANK 44 6,000 BBLS SECTION 61, PAGE 5* | | | | | | | | | | | | | | | |
| 177162 | | Uncoded Feature | 0 | 0 | 1.00 | A | 74,600.00 | 74,600 | 1958 | 1958 | | | | OC | 50.00 | 37,300 | 33,600 |
| | | *TANK 45 2,650 BBLS SECTION 61, PAGE 5* | | | | | | | | | | | | | | | |
| 177163 | | Uncoded Feature | 0 | 0 | 1.00 | A | 99,350.00 | 99,350 | 1958 | 1958 | | | | OC | 50.00 | 49,675 | 44,700 |
| | | *TANK 47 7,700 BBLS SECTION 61, PAGE 5* | | | | | | | | | | | | | | | |
| 177164 | | Uncoded Feature | 0 | 0 | 1.00 | A | 99,350.00 | 99,350 | 1958 | 1958 | | | | OC | 50.00 | 49,675 | 44,700 |
| | | *TANK 48 7,700 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177165 | | Uncoded Feature | 0 | 0 | 1.00 | A | 174,750.00 | 174,750 | 1958 | 1958 | | | | OC | 50.00 | 87,375 | 78,600 |
| | | *TANK 49 15,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |

**LAND**

| ID# | USE DESC | FRONT | DEPTH | UNITS / TYPE | PRICE | ZONING | SIZE | LCTN | TOPO | OTHER | ADJ1 | ADJ2 | ADJ3 | ADJ4 | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | CAMA | ASMT | | |
|---|---|---|---|---|---|---|---|
| APPRAISER | swcorcor | IMPTS ONLY ON STATE PORT AUTH PROPERTY | SOUTHLAND OIL CO | 0 | 0 | LAND | 1 |
| LAST INSP | 04/27/2010 | | C/O RASH #698-10-820 | 229,300 | 229,300 | BLDG | 9 |
| APPR ZONE | 000009 | | PO BOX 260888 | 4,193,100 | 4,193,100 | OBXF | 53 |
| | | | PLANO, TX 75026-0888 | 4,422,400 | 4,422,400 | Cost - MS | |

**SALES** BOOK / PAGE INS VI QU RSN PRICE

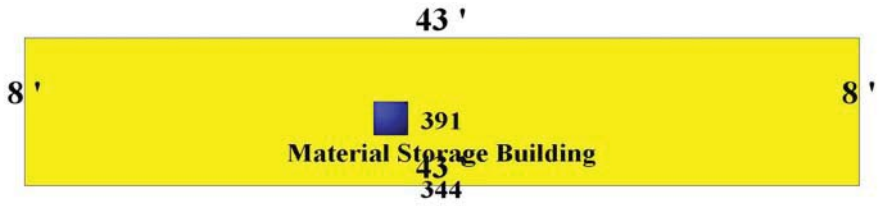
**PERMITS** TYPE DATE AMOUNT

**CODES**

| | | |
|---|---|---|
| PROPERTY USE | 0004 | Industrial |
| UTA | 0001 | Unincorporated |
| NBHD | 009900.00 | I900 Waterfront(Hvy |
| EXEMPTIONS | | |
| COMMCATEG | 4500 | Manufacturing light |

**HISTORY** LAND IMPR TOTAL

| BUILDING SECTION | CONSTRUCTION TYPE | RCN | AYB | EYB | DEP TYPE | PHYS | ECON | FUNC | OBSV / % | TOTAL DEP % | RCNLD | U.FACTOR | MKT VAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22016-1 | Commercial | 11,263 | 1955 | 1955 | MS | 80.00 | 0.00 | 0.00 | 0.00 | 80.00 | 2,253 | 1.00 | 2,253 |




| | |
|---|---|
| AREA | 344 |
| STORIES | 1.0 |
| PERIMETER / SHAPE | 102 |

| OCCUPANCIES | AREA | % | CLASS | HEIGHT | QUAL |
|---|---|---|---|---|---|
| 391 Material Storage Building | 344 | ###### | S | 10.00 | 2.00 |

| COMPONENTS | UNITS | % | QUAL |
|---|---|---|---|
| C1 888 Stud -Metal Siding | - | 100.00 | |

*Storage Building (Building #7). One story concrete block; 10' height; built in 1955.*

**EXTRA FEATURES**

| ID# | BLDG # | SYSTEM DESC | DIM 1 | DIM 2 | UNITS | QL | UNIT PRICE | RCN | AYB | EYB | DT | ECON | FUNC | SP | SP% | RCNLD | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 177166 | | Uncoded Feature | 0 | 0 | 1.00 | A | 206,250.00 | 206,250 | 1958 | 1958 | | | | OC | 20.00 | 41,250 | 37,100 |
| | | *TANK 50 20,000 BBLS OUT OF SERVICE SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177167 | | Uncoded Feature | 0 | 0 | 1.00 | A | 153,300.00 | 153,300 | 1958 | 1958 | | | | OC | 50.00 | 76,650 | 69,000 |
| | | *TANK 51 12,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177168 | | Uncoded Feature | 0 | 0 | 1.00 | A | 153,330.00 | 153,330 | 1958 | 1958 | | | | OC | 50.00 | 76,665 | 69,000 |
| | | *TANK 52 12,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177169 | | Uncoded Feature | 0 | 0 | 1.00 | A | 77,350.00 | 77,350 | 1958 | 1958 | | | | OC | 50.00 | 38,675 | 34,800 |
| | | *TANK 53 3,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177170 | | Uncoded Feature | 0 | 0 | 1.00 | A | 74,150.00 | 74,150 | 1958 | 1958 | | | | OC | 50.00 | 37,075 | 33,400 |
| | | *TANK 54 2,600 BBLS SECTION 61, PAGE 5* | | | | | | | | | | | | | | | |
| 177171 | | Uncoded Feature | 0 | 0 | 1.00 | A | 97,250.00 | 97,250 | 1958 | 1958 | | | | OC | 50.00 | 48,625 | 43,800 |
| | | *TANK 55, 5,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177172 | | Uncoded Feature | 0 | 0 | 1.00 | A | 303,710.00 | 303,710 | 1958 | 1958 | | | | OC | 50.00 | 151,855 | 136,700 |
| | | *TANK 56 35,600 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |

**LAND**

| ID# | USE DESC | FRONT | DEPTH | UNITS / TYPE | PRICE | ZONING | SIZE | LCTN | TOPO | OTHER | ADJ1 | ADJ2 | ADJ3 | ADJ4 | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

# 2010 Chatham County Board of Assessors

# 1-0618 -01-003L

## Property Record Card

 Requested By: READONLY 7/2/2010

**BRAMPTON RD SAVANNAH**

| | |
|---|---|
| APPRAISER | swcorcor |
| LAST INSP | 04/27/2010 |
| APPR ZONE | 000009 |

IMPTS ONLY ON STATE PORT AUTH PROPERTY

SOUTHLAND OIL CO
C/O RASH #698-10-820
PO BOX 260888
PLANO, TX 75026-0888

| CAMA | ASMT | | |
|---|---|---|---|
| 0 | 0 | LAND | 1 |
| 229,300 | 229,300 | BLDG | 9 |
| 4,193,100 | 4,193,100 | OBXF | 53 |
| 4,422,400 | 4,422,400 | Cost - MS | |

**SALES**

| BOOK / PAGE | INS | VI | QU | RSN | PRICE |
|---|---|---|---|---|---|

**PERMITS**

| TYPE | DATE | AMOUNT |
|---|---|---|

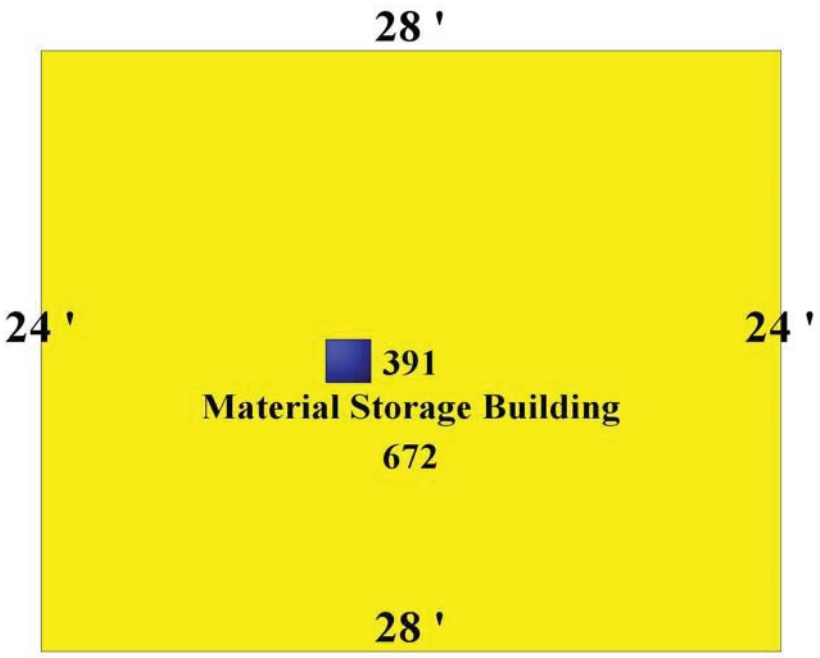
**CODES**

| | | |
|---|---|---|
| PROPERTY USE | 0004 | Industrial |
| UTA | 0001 | Unincorporated |
| NBHD | 009900.00 | I900 Waterfront(Hvy |
| EXEMPTIONS | | |
| COMMCATEG | 4500 | Manufacturing light |

**HISTORY**

| LAND | IMPR | TOTAL |
|---|---|---|

| BUILDING SECTION | CONSTRUCTION TYPE | RCN | AYB | EYB | DEP TYPE | PHYS | ECON | FUNC | OBSV / % | TOTAL DEP % | RCNLD | U.FACTOR | MKT VAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22018-1 | Commercial | 19,421 | 1970 | 1970 | MS | 80.00 | 0.00 | 0.00 | 0.00 | 80.00 | 3,884 | 1.00 | 3,884 |




*Pump Room & Storage (Building #9). One story concrete block; 8' height; built in 1970; space heat.*

| | |
|---|---|
| AREA | 672 |
| STORIES | 1.0 |
| PERIMETER / SHAPE | 104 |

**OCCUPANCIES**

| | | AREA | % | CLASS | HEIGHT | QUAL |
|---|---|---|---|---|---|---|
| 391 | Material Storage Building | 672 | ###### | C | 8.00 | 2.00 |

**COMPONENTS**

| | | | UNITS | % | QUAL |
|---|---|---|---|---|---|
| C1 | 812 | Concrete Block | - | 100.00 | |
| C2 | 606 | Space Heater | - | 100.00 | |

**EXTRA FEATURES**

| ID# | BLDG # | SYSTEM DESC | DIM 1 | DIM 2 | UNITS | QL | UNIT PRICE | RCN | AYB | EYB | DT | ECON | FUNC | SP | SP% | RCNLD | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 177173 | | Uncoded Feature | 0 | 0 | 1.00 | A | 239,125.00 | 239,125 | 1958 | 1958 | | | | OC | 50.00 | 119,563 | 107,600 |
| | | *TANK 57 25,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177174 | | Uncoded Feature | 0 | 0 | 1.00 | A | 252,275.00 | 252,275 | 1958 | 1958 | | | | OC | 50.00 | 126,138 | 113,500 |
| | | *TANK 58 27,000 BBLS SECTION 61, PAGE 5* | | | | | | | | | | | | | | | |
| 177175 | | Uncoded Feature | 0 | 0 | 1.00 | A | 300,312.00 | 300,312 | 1958 | 1958 | | | | OC | 50.00 | 150,156 | 135,100 |
| | | *TANK 59 35,000 BBLS SECTION 61, PAGE 5* | | | | | | | | | | | | | | | |
| 177177 | | Uncoded Feature | 0 | 0 | 1.00 | A | 75,950.00 | 75,950 | 1958 | 1958 | | | | OC | 50.00 | 37,975 | 34,200 |
| | | *TANK 60 2,800 BBLS SECTION 61, PAGE 5* | | | | | | | | | | | | | | | |
| 177178 | | Uncoded Feature | 0 | 0 | 1.00 | A | 97,250.00 | 97,250 | 1958 | 1958 | | | | OC | 50.00 | 48,625 | 43,800 |
| | | *TANK 72 5,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177179 | | Uncoded Feature | 0 | 0 | 1.00 | A | 139,000.00 | 139,000 | 1958 | 1958 | | | | OC | 50.00 | 69,500 | 62,600 |
| | | *TANK 73 10,000 BBLS SECTION 61 PAGE 5* | | | | | | | | | | | | | | | |
| 177180 | | Uncoded Feature | 0 | 0 | 1.00 | A | 239,125.00 | 239,125 | 1958 | 1958 | | | | OC | 50.00 | 119,563 | 107,600 |
| | | *TANK 74 25,000 BBLS SECTION 61, PAGE 5* | | | | | | | | | | | | | | | |

**LAND**

| ID# | USE DESC | FRONT | DEPTH | UNITS / TYPE | PRICE | ZONING | SIZE | LCTN | TOPO | OTHER | ADJ1 | ADJ2 | ADJ3 | ADJ4 | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

# 2010 Chatham County Board of Assessors

# 1-0618 -01-003L

## Property Record Card

 Requested By: READONLY 7/2/2010

**BRAMPTON RD SAVANNAH**

| | |
|---|---|
| APPRAISER | swcorcor |
| LAST INSP | 04/27/2010 |
| APPR ZONE | 000009 |

IMPTS ONLY ON STATE PORT AUTH PROPERTY

SOUTHLAND OIL CO
C/O RASH #698-10-820
PO BOX 260888
PLANO, TX 75026-0888

| CAMA | ASMT | | |
|---|---|---|---|
| 0 | 0 | LAND | 1 |
| 229,300 | 229,300 | BLDG | 9 |
| 4,193,100 | 4,193,100 | OBXF | 53 |
| 4,422,400 | 4,422,400 | Cost - MS | |

**SALES**

| BOOK / PAGE | INS | VI | QU | RSN | PRICE |
|---|---|---|---|---|---|

**PERMITS**

| TYPE | DATE | AMOUNT |
|---|---|---|

**CODES**

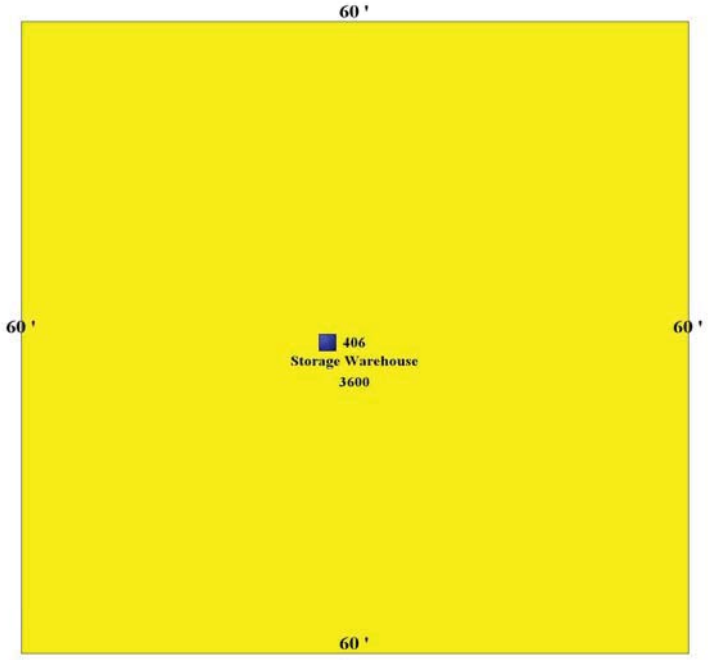
| | | |
|---|---|---|
| PROPERTY USE | 0004 | Industrial |
| UTA | 0001 | Unincorporated |
| NBHD | 009900.00 | I900 Waterfront(Hvy |
| EXEMPTIONS | | |
| COMMCATEG | 4500 | Manufacturing light |

**HISTORY**

| LAND | IMPR | TOTAL |
|---|---|---|

**BUILDING SECTION** 22019-1

| CONSTRUCTION TYPE | RCN | AYB | EYB | DEP TYPE | PHYS | ECON | FUNC | OBSV / % | TOTAL DEP % | RCNLD | U.FACTOR | MKT VAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | 121,644 | 1970 | 1970 | MS | 79.00 | 0.00 | 0.00 | 0.00 | 79.00 | 25,545 | 1.00 | 25,545 |




*Blue Warehouse / Nisco Building (#10).One story metal; 14' height; built in 1970; space heat; building brand is "Butler".*

| | |
|---|---|
| AREA | 3,600 |
| STORIES | 1.0 |
| PERIMETER / SHAPE | 240 |

**OCCUPANCIES**

| | AREA | % | CLASS | HEIGHT | QUAL |
|---|---|---|---|---|---|
| 406 Storage Warehouse | 3,600 | ###### | S | 14.00 | 2.00 |

**COMPONENTS**

| | UNITS | % | QUAL |
|---|---|---|---|
| C1 888 Stud -Metal Siding | - | 100.00 | |
| C2 606 Space Heater | - | 100.00 | |

**EXTRA FEATURES**

| ID# | BLDG # | SYSTEM DESC | DIM 1 | DIM 2 | UNITS | QL | UNIT PRICE | RCN | AYB | EYB | DT | ECON | FUNC | SP | SP% | RCNLD | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 177181 | | Uncoded Feature<br>*TANK 75 10,000 BBLS SECTION 61, PAGE 5* | 0 | 0 | 1.00 | A | 139,000.00 | 139,000 | 1958 | 1958 | | | | OC | 50.00 | 69,500 | 62,600 |
| 177182 | | Uncoded Feature<br>*TANK 76 25,000 BBLS SECTION 61, PAGE 5.* | 0 | 0 | 1.00 | A | 239,125.00 | 239,125 | 1958 | 1958 | | | | OC | 50.00 | 119,563 | 107,600 |
| 177183 | | Uncoded Feature<br>*TANK 77 119 BBLS SECTION 61, PAGE 3* | 0 | 0 | 1.00 | A | 7,260.00 | 7,260 | 2001 | 2001 | | | | OC | 80.00 | 5,808 | 5,200 |

**LAND**

| ID# | USE DESC | FRONT | DEPTH | UNITS / TYPE | PRICE | ZONING | SIZE | LCTN | TOPO | OTHER | ADJ1 | ADJ2 | ADJ3 | ADJ4 | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

# 2010 Chatham County Board of Assessors

# 1-0618 -01-003L

## Property Record Card



Requested By: READONLY 7/2/2010

**BRAMPTON RD SAVANNAH**

| | | | | CAMA | ASMT | | |
|---|---|---|---|---|---|---|---|
| APPRAISER | swcorcor | IMPTS ONLY ON STATE PORT AUTH PROPERTY | SOUTHLAND OIL CO | 0 | 0 | LAND | 1 |
| LAST INSP | 04/27/2010 | | C/O RASH #698-10-820 | 229,300 | 229,300 | BLDG | 9 |
| APPR ZONE | 000009 | | PO BOX 260888 | 4,193,100 | 4,193,100 | OBXF | 53 |
| | | | PLANO, TX 75026-0888 | 4,422,400 | 4,422,400 | Cost - MS | |

**SALES** BOOK / PAGE INS VI QU RSN PRICE

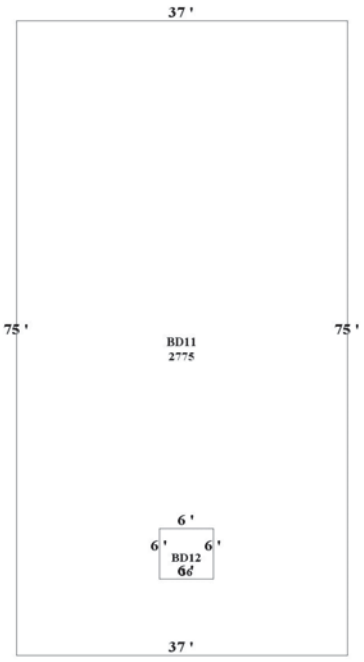
**PERMITS** TYPE DATE AMOUNT

**CODES**

| | | |
|---|---|---|
| PROPERTY USE | 0004 | Industrial |
| UTA | 0001 | Unincorporated |
| NBHD | 009900.00 | I900 Waterfront(Hvy |
| EXEMPTIONS | | |
| COMMCATEG | 4500 | Manufacturing light |

**HISTORY** LAND IMPR TOTAL

| BUILDING SECTION | CONSTRUCTION TYPE | RCN | AYB | EYB | DEP TYPE | PHYS | ECON | FUNC | OBSV / % | TOTAL DEP % | RCNLD | U.FACTOR | MKT VAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22020-1 | Drawing Only | 0 | | | MS | 0.00 | 0.00 | 0.00 | 0.00 | | 0 | | 0 |




*BD11 represents a canopy built in 1969 and is valued as "MISC" Item #2. BD12 represents a small "office" and is valued as "MISC" Item #3.*

| | |
|---|---|
| SECTION TYPE | 1 - Main |
| AREA | 0 |
| TYPE | - |
| FRAME | - |
| STYLE | - % |
| QUALITY | 0.00 |
| CONDITION | 0.00 |
| # UNITS | 0 |
| # OF BEDS / BATHS | 0 / 0.00 |

**EXTRA FEATURES**

| ID# | BLDG # | SYSTEM DESC | DIM 1 | DIM 2 | UNITS | QL | UNIT PRICE | RCN | AYB | EYB | DT | ECON | FUNC | SP | SP% | RCNLD | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**LAND**

| ID# | USE DESC | FRONT | DEPTH | UNITS / TYPE | PRICE | ZONING | SIZE | LCTN | TOPO | OTHER | ADJ1 | ADJ2 | ADJ3 | ADJ4 | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

# 2010 Chatham County Board of Assessors

# Property Record Card



Requested By: READONLY 7/2/2010

**1-0618 -01-004L**

**BRAMPTON RD SAVANNAH**

| | | | | CAMA | ASMT | | |
|---|---|---|---|---|---|---|---|
| APPRAISER | swcorcor | IMPROVEMENTS ONLY ON STATE PORT | PANOCEAN SOUTHLAND INC | 0 | 0 | LAND | 1 |
| LAST INSP | 04/27/2010 | PROPERTY | RASH & ASSOCIATES | 32,400 | 32,400 | BLDG | 2 |
| APPR ZONE | 000009 | | PO BOX 260888 | 1,743,100 | 1,743,100 | OBXF | 6 |
| | | | PLANO, TX 75026-0888 | 1,775,500 | 1,775,500 | Cost - MS | |

**SALES**

| BOOK / PAGE | INS | VI | QU | RSN | PRICE |
|---|---|---|---|---|---|
| 0/11/1977 109K 0345 | WD | I | U | UN | 1,200,000 |
| *GRANTOR: SHELL OIL COMPANY, GRANTEE: KOCH FUELS INCORPORATED,* | | | | | |
| 6/29/1973 102M 0215 | NA | I | U | UN | - |
| *GRANTOR: SAVANNAH TERMINAL, INC., GRANTEE: SHELL OIL COMPANY,* | | | | | |

**PERMITS**

| TYPE | DATE | AMOUNT |
|---|---|---|

**CODES**

| | | |
|---|---|---|
| PROPERTY USE | 0004 | Industrial |
| UTA | 0001 | Unincorporated |
| NBHD | 009900.00 | I900 Waterfront(Hvy |
| EXEMPTIONS | | |
| COMMCATEG | 4000 | Industrial |

**HISTORY**

| | LAND | IMPR | TOTAL | |
|---|---|---|---|---|
| 2010 | | 1,775,500 | 1,775,500 | Cama |
| 2009 | | 1,527,000 | 1,527,000 | Over |
| 2008 | | | 1,527,000 | A/C |
| 2007 | | 943,500 | 943,500 | Cama |
| 2006 | | 943,500 | 943,500 | Cama |

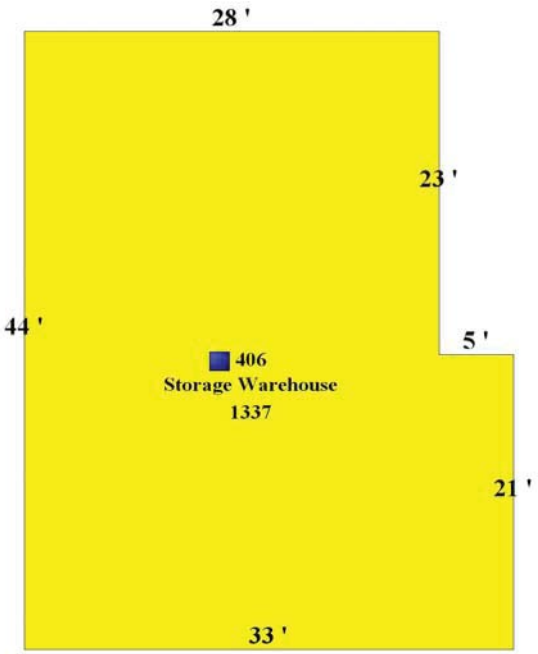
COMMENTS

| | |
|---|---|
| *3/25/2010* | *03/25/2010 OVER-RIDE VALUE UPDATED TO REFLECT 2010 RETURN AND NEW INFORMATION PROVIDED. SWC.* |
| *3/24/2010* | *03/24/2010 TANK INFORMATION UPDATED. SWC.* |
| *3/8/2010* | *TY010 RET VAL ENT* |

NOTES

**BUILDING SECTION 22021-1**

| CONSTRUCTION TYPE | RCN | AYB | EYB | DEP TYPE | PHYS | ECON | FUNC | OBSV / % | TOTAL DEP % | RCNLD | U.FACTOR | MKT VAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | 49,856 | 1968 | 1968 | MS | 75.00 | 0.00 | 0.00 | 0.00 | 75.00 | 12,464 | 1.00 | 12,464 |




*Warehouse (Building #1). One story concrete block; 10' height; built in 1968. http://www.vopakamericas.com/*

| | |
|---|---|
| AREA | 1,337 |
| STORIES | 1.0 |
| PERIMETER / SHAPE | 154 |

**OCCUPANCIES**

| | AREA | % | CLASS | HEIGHT | QUAL |
|---|---|---|---|---|---|
| 406 Storage Warehouse | 1,337 | ###### | C | 10.00 | 2.00 |

**COMPONENTS**

| | UNITS | % | QUAL |
|---|---|---|---|
| C1 812 Concrete Block | - | 100.00 | |

**EXTRA FEATURES**

| ID# | BLDG # | SYSTEM DESC | DIM 1 | DIM 2 | UNITS | QL | UNIT PRICE | RCN | AYB | EYB | DT | ECON | FUNC | SP | SP% | RCNLD | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43638 | | Storage/Utility avg | 12 | 8 | 96.00 | 3 | 9.84 | 945 | 1958 | 1958 | 35 | | | | | 189 | 200 |
| 177126 | | Uncoded Feature *TANK 12 80000 BBL S61 P5* | 0 | 0 | 1.00 | A | 569,600.00 | 569,600 | 2008 | 2008 | | | | OC | 95.00 | 541,120 | 487,000 |
| 177128 | | Uncoded Feature *TANK 13 80,000 BBL S61 P5* | 0 | 0 | 1.00 | A | 569,600.00 | 569,600 | 2008 | 2008 | | | | OC | 95.00 | 541,120 | 487,000 |
| 177129 | | Uncoded Feature *TANK 20 80,000 BBL S61 P5* | 0 | 0 | 1.00 | A | 569,600.00 | 569,600 | 1955 | 1955 | | | | OC | 50.00 | 284,800 | 256,300 |
| 177130 | | Uncoded Feature *TANK 21 80,000 BBL S61 P5* | 0 | 0 | 1.00 | A | 569,600.00 | 569,600 | 1955 | 1955 | | | | OC | 50.00 | 284,800 | 256,300 |
| 177131 | | Uncoded Feature *TANK 22 80,000 BBL S61 P5* | 0 | 0 | 1.00 | A | 569,600.00 | 569,600 | 1955 | 1955 | | | | OC | 50.00 | 284,800 | 256,300 |

**LAND**

| ID# | USE DESC | FRONT | DEPTH | UNITS / TYPE | PRICE | ZONING | SIZE | LCTN | TOPO | OTHER | ADJ1 | ADJ2 | ADJ3 | ADJ4 | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25689 | INDUSTRIAL | 0 | 0 | 1.000 G | 0.00 | I-H | 1.00 | | | | | | | | 0 |

# 2010 Chatham County Board of Assessors

# 1-0618 -01-004L

## Property Record Card



Requested By: READONLY 7/2/2010

**BRAMPTON RD SAVANNAH**

| | | | |
|---|---|---|---|
| APPRAISER | swcorcor | IMPROVEMENTS ONLY ON STATE PORT | PANOCEAN SOUTHLAND INC |
| LAST INSP | 04/27/2010 | PROPERTY | RASH & ASSOCIATES |
| APPR ZONE | 000009 | | PO BOX 260888 |
| | | | PLANO, TX 75026-0888 |

| CAMA | ASMT | | |
|---|---|---|---|
| 0 | 0 | LAND | 1 |
| 32,400 | 32,400 | BLDG | 2 |
| 1,743,100 | 1,743,100 | OBXF | 6 |
| 1,775,500 | 1,775,500 | Cost - MS | |

**SALES**

| BOOK / PAGE | INS | VI | QU | RSN | PRICE |
|---|---|---|---|---|---|

**PERMITS**

| TYPE | DATE | AMOUNT |
|---|---|---|

**CODES**

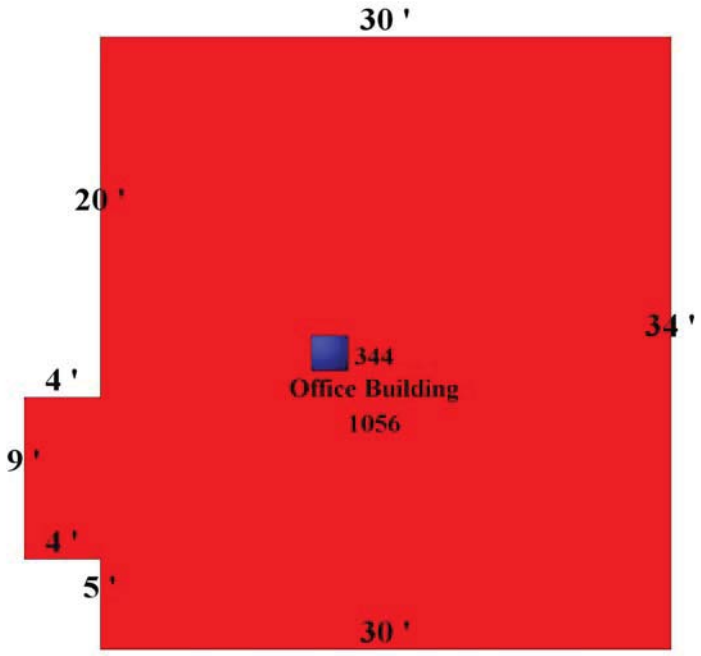
| | | |
|---|---|---|
| PROPERTY USE | 0004 | Industrial |
| UTA | 0001 | Unincorporated |
| NBHD | 009900.00 | I900 Waterfront(Hvy |
| EXEMPTIONS | | |
| COMMCATEG | 4000 | Industrial |

**HISTORY**

| | LAND | IMPR | TOTAL | |
|---|---|---|---|---|
| 2005 | | 943,500 | 943,500 | Cama |
| 2004 | | 950,500 | 950,500 | Cama |
| 2003 | | 950,500 | 950,500 | Cama |
| 2002 | | 950,500 | 950,500 | Cama |
| 2001 | | 954,000 | 954,000 | Cama |

**BUILDING SECTION** 22022-1

| CONSTRUCTION TYPE | RCN | AYB | EYB | DEP TYPE | PHYS | ECON | FUNC | OBSV / % | TOTAL DEP % | RCNLD | U.FACTOR | MKT VAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | 99,539 | 1958 | 1958 | MS | 80.00 | 0.00 | 0.00 | 0.00 | 80.00 | 19,908 | 1.00 | 19,908 |




*Office (Building #2). One story concrete block; 10' height; built in 1958; CHAC; four plumbing fixtures; tile floor covering. http://www.vopakamericas.com/*

| | |
|---|---|
| AREA | 1,056 |
| STORIES | 1.0 |
| PERIMETER / SHAPE | 136 |

**OCCUPANCIES**

| | AREA | % | CLASS | HEIGHT | QUAL |
|---|---|---|---|---|---|
| 344 Office Building | 1,056 | ###### | C | 10.00 | 2.00 |

**COMPONENTS**

| | UNITS | % | QUAL |
|---|---|---|---|
| C1 812 Concrete Block | - | 100.00 | |
| C2 614 Heat Pump | - | 100.00 | |

**EXTRA FEATURES**

| ID# | BLDG # | SYSTEM DESC | DIM 1 | DIM 2 | UNITS | QL | UNIT PRICE | RCN | AYB | EYB | DT | ECON | FUNC | SP | SP% | RCNLD | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**LAND**

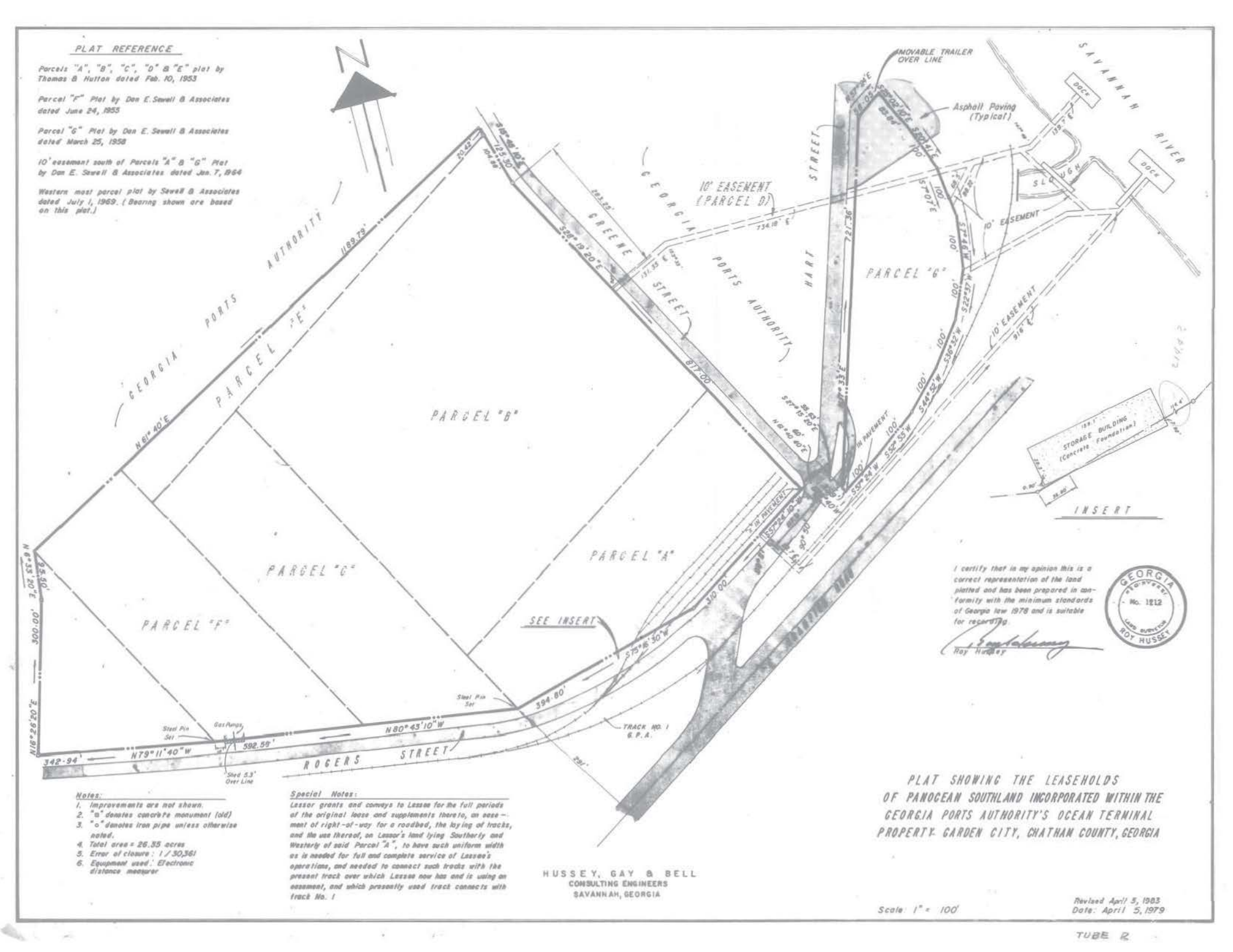
| ID# | USE DESC | FRONT | DEPTH | UNITS / TYPE | PRICE | ZONING | SIZE | LCTN | TOPO | OTHER | ADJ1 | ADJ2 | ADJ3 | ADJ4 | MKT VALUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

# ATTACHMENT C

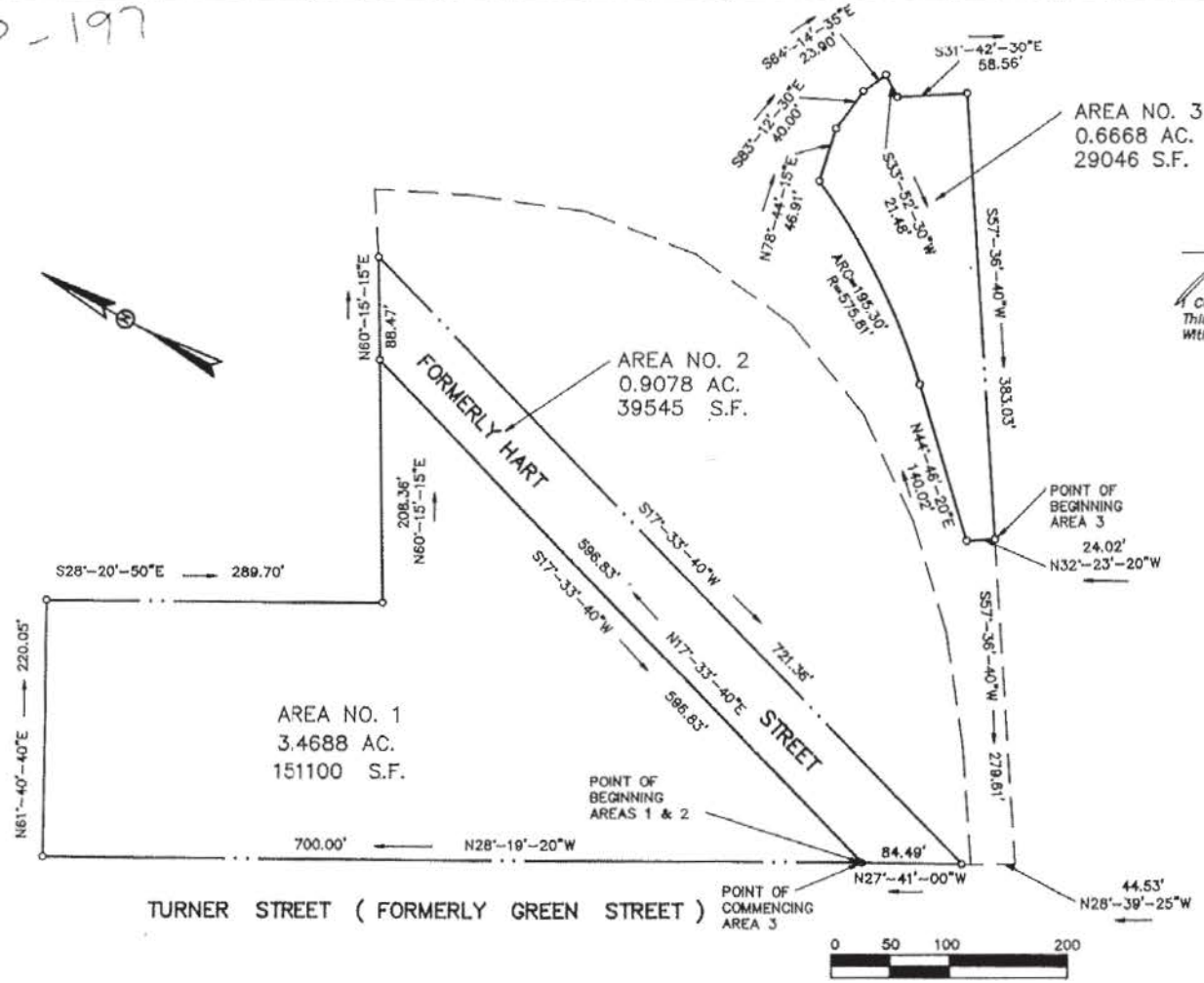
# TAX PLATS

1
428.5 AC TOTAL
3L
4L
Graham St
Brampton Rd
FRONT RIVER
RAILROAD
SAVANNAH FRONT RIVER
1
17.92 AC
ATLANTA
RAILROAD
Unnamed Street
4440
SOURCE: Savannah Area GIS, http://sagis.org/flex/
200 m
PARCEL 3

1
428.5 AC TOTAL
3L
4L
Green St
Brampton Rd
FRONT RIVER
RAILROAD
SAVANNAH FRONT RIVER
1
17.92 AC
ATLANTA
RAILROAD
Unnamed Street
4440
SOURCE: Savannah Area GIS, http://gis
200 m
PARCEL 4


PLAT REFERENCE
Parcels "A", "B", "C", "D" & "E" plat by Thomas & Hutton dated Feb. 10, 1953
Parcel "F" Plat by Dan E. Sewell & Associates dated June 24, 1955
Parcel "G" Plat by Dan E. Sewell & Associates dated March 25, 1958
10' easement south of Parcels "A" & "G" Plat by Dan E. Sewell & Associates dated Jan. 7, 1964
Western most parcel plat by Sewell & Associates dated July 1, 1969. ( Bearing shown are based on this plat.)
N
GEORGIA PORTS AUTHORITY
PARCEL "E"
PARCEL "B"
PARCEL "C"
PARCEL "A"
PARCEL "F"
PARCEL "G"
GREENE STREET
HART STREET
10' EASEMENT (PARCEL D)
MOVABLE TRAILER OVER LINE
Asphalt Paving (Typical)
SAVANNAH RIVER
DOCK
SLUGH
10' EASEMENT
STORAGE BUILDING (Concrete Foundation)
INSERT
SEE INSERT
TRACK NO. 1 G.P.A.
ROGERS STREET
Steel Pin Set
Gas Pumps
Shed 5.3' Over Line
1189.79'
N61°40'E
300.00'
N16°26'20"E
342.94'
N79°11'40"W
592.59'
N80°43'10"W
394.80'
S75°16'30"W
310.00'
S26°19'20"E
817.00'
N16°40'40"E
S27°15'20"E
S44°52'W
S36°32'W
S22°37'W
S7°44'W
S7°01'E
S44°52'E
S59°24'10"E
S57°24'10"E
S59°40'W
S59°24'W
S52°55'W
S44°52'W
S36°32'W
S22°37'W
S7°44'W
S7°01'E
S44°52'E
734.18'
721.36'
916'
I certify that in my opinion this is a correct representation of the land platted and has been prepared in conformity with the minimum standards of Georgia law 1978 and is suitable for recording.
Roy Hussey
GEORGIA REGISTERED No. 1212 LAND SURVEYOR ROY HUSSEY
Notes:
1. Improvements are not shown.
2. "■" denotes concrete monument (old)
3. "○" denotes iron pipe unless otherwise noted.
4. Total area = 26.35 acres
5. Error of closure : 1 / 30,361
6. Equipment used : Electronic distance measurer
Special Notes:
Lessor grants and conveys to Lessee for the full periods of the original lease and supplements thereto, an easement of right-of-way for a roadbed, the laying of tracks, and the use thereof, on Lessor's land lying Southerly and Westerly of said Parcel "A", to have such uniform width as is needed for full and complete service of Lessee's operations, and needed to connect such tracks with the present track over which Lessee now has and is using an easement, and which presently used track connects with track No. 1
HUSSEY, GAY & BELL
CONSULTING ENGINEERS
SAVANNAH, GEORGIA
PLAT SHOWING THE LEASEHOLDS OF PANOCEAN SOUTHLAND INCORPORATED WITHIN THE GEORGIA PORTS AUTHORITY'S OCEAN TERMINAL PROPERTY- GARDEN CITY, CHATHAM COUNTY, GEORGIA
Scale: 1" = 100'
Revised April 5, 1983
Date: April 5, 1979
TUBE 2

11 P-197




Joseph C. Keaton, Jr.
Ga. Reg. Land Surveyor No. 2233
I Certify That This Plat Is A Correct Representation Of This Land Platted And Has Been Prepared In Conformity With The Minimum Standards And Requirements Of Law

GEORGIA REGISTERED No. 2233 LAND SURVEYOR JOSEPH C. KEATON, JR.

# PLAT OF VARIOUS PARCELS WITHIN GEORGIA PORTS AUTHORITY'S GARDEN CITY TERMINAL, GARDEN CITY, CHATHAM COUNTY, GEORGIA

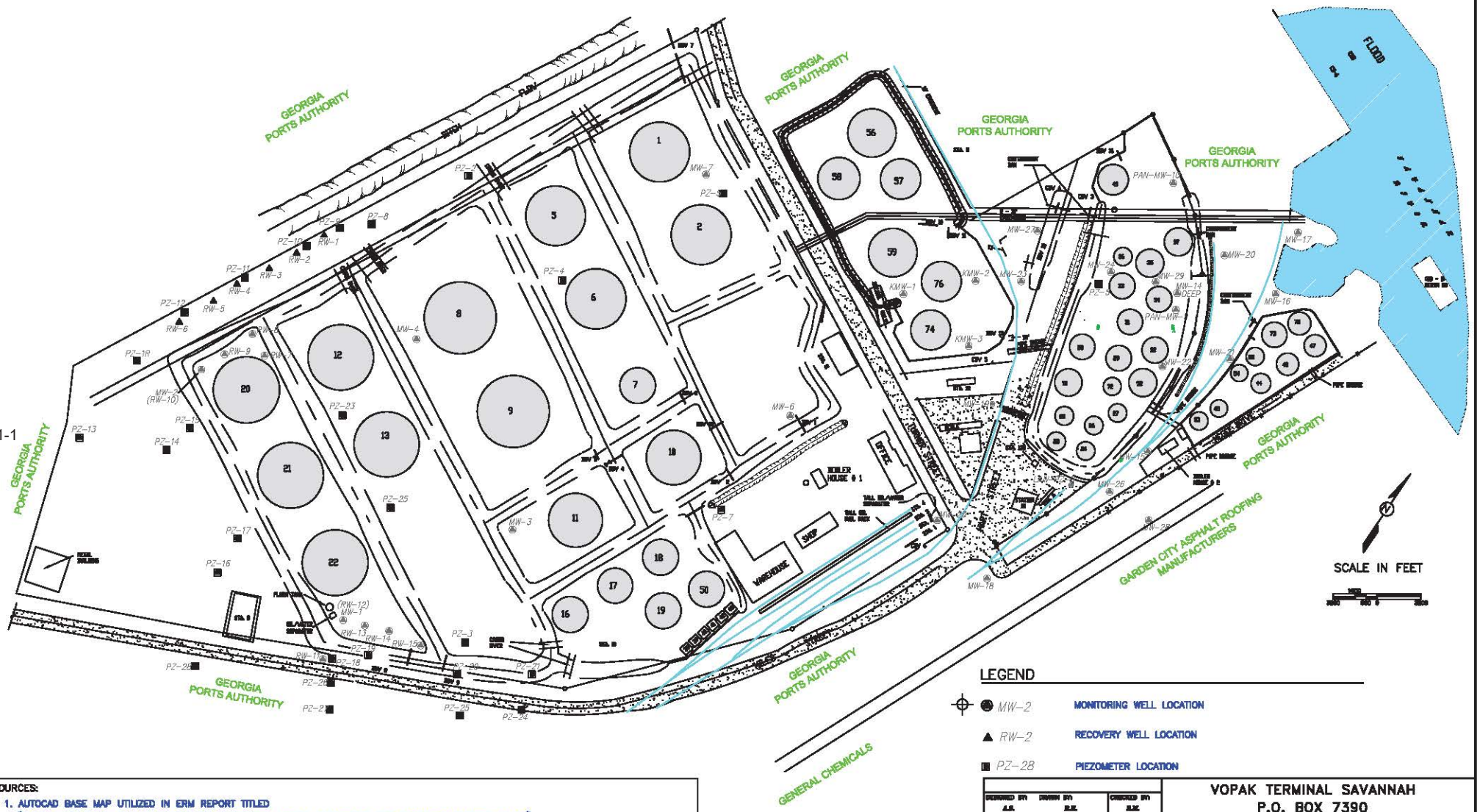
SURVEYED FOR:

PANOCEAN SOUTHLAND INCORPORATED


Keaton Land Surveying Inc.
7505 Waters Avenue Suite D-5
Savannah, Georgia (912) 354-0300


Scale: 1" = 100'
Date: JUNE 13, 1991
File: 91-173
Equipment Used:

**EXHIBIT A**




SOURCES:

1. AUTOCAD BASE MAP UTILIZED IN ERM REPORT TITLED "2010 VOPAK THIRD ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464" HAZARDOUS SITE INVENTORY NUMBER 10464", SAVANNAH, GEORGIA
2. LAW REPORT TITLED "1996 GROUND-WATER ASSESSMENT, PAKTANK CORP. – SAVANNAH TERMINAL, GEORGIA PORTS AUTHORITY; DRAWING #2
3. ERM REPORT TITLED "2001 COMPLIANCE STATUS REPORT ADDENDUM, HASARDOUS SITE INVENTORY NO. 10464; FIGURE #3
4. ERM REPORT TITLED "2010 VOPAK THIRD ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464"
5. WPC REPORT TITLED "2010 REMEDIATION ACTIVITIES REPORTS"; FIGURE 2

FIGURE 1

ABUTTING PROPERTIES

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

# ATTACHMENT D

# SUMMARY OF HISTORIC BTEX INVESTIGATIONS

# SUMMARY OF HISTORIC BTEX INVESTIGATIONS

In reviewing site-wide total BTEX concentration isopleth maps and groundwater elevation contour maps in various environmental reports by Law, ERM, and WPC since 1996, EIC has determined that three well-defined dissolved BTEX contaminant source plumes have existed at the site since at least 1996 and continue to exist at present. Two of the plumes have historically been located at the western end of the largest tank farm, designated as the Number 1 Tank Farm (Exhibit 1). A third plume has historically been located within the relatively smaller Number 2 Tank Farm where a PCE plume also exists. Based on the ERM and WPC reports, the LNAPL and BTEX plumes on the western side of the site are currently being addressed under the Watershed Protection program of the GA EPD, while the eastern PCE and BTEX contaminant plumes were being addressed under the HSRA program of the GA EPD. Following are EIC's findings regarding potential migration of the BTEX from the western plumes to the location of the PCE plume.

## 1.0 BTEX Plumes Defined in 1996

Exhibit 1 (LAW, 1996) is a site-wide map that illustrates the location and horizontal extent of the three dissolved BTEX plumes in groundwater on June 12, 1996. The first plume is located within the same foot-print as the PCE plume addressed in the VRP. The second and third BTEX plumes are located on the western end of the site near AST 20 and ASTs 15/22, respectively, of the Number 1 Tank Farm west of Turner Street. From Exhibit 1 it is apparent that the first plume was located within the same foot-print as the current PCE plume. The second BTEX plume, located to the west of the first plume, was separated by a distance of more than 1,000 feet. A smaller third BTEX plume was located approximately 400 feet to the north west of the second plume. The sources of these plumes were not apparent from the available documents.

## 2.0 1999 Diesel Spill in the Number 1 Tank Farm Area

On January 12, 1999, a major diesel release took place from AST 22 that resulted in LPH accumulations at the second and third plumes. According to a historic report, the release discharged approximately 1 million gallons of diesel into the common containment berm surrounding ASTs 20, 21, and 22 (ERM, 1999). After recovery activities were completed, it was determined by ERM that 30,000 to 40,000 gallons of diesel had infiltrated into the soil. Since 1999, several remediation technologies have been applied in this area (first by ERM and then by WPC), in an attempt to remediate diesel LNAPL from the subsurface. According to a series of reports by WPC (all titled "Remediation Activities Report"), the Surfactant Enhanced Aquifer Remediation (SEAR) injection technique reportedly recovered "to date" "approximately 6,992 liquid/vapor equivalent gallons of free product from the subsurface" from 2008 to July 2010 (WPC, 2011). Prior to initiating this technique, 17 surfactant injection wells and 23 surfactant extraction wells were installed. According to this report and other WPC and ERM reports (EIC has reviewed regarding the diesel spill and remediation) a total of approximately 28,726 gallons of LNAPL appear to remain in the subsurface at present in the areas of ASTs 20 and 22, respectively.

## 3.0 Input of Area of Diesel Spill on BTEX Concentrations in Groundwater

After the diesel release occurred, however, by January 2006, the diesel product had accumulated within in the same general areas in the Number 1 Tank Farm as the BTEX plumes were present prior to the release. The diesel product plumes are illustrated in Exhibit 2 (ERM, 2006). Exhibit 3 (WPC, 2011) illustrates the western area of the Number 1 Tank Farm, including ASTs 20, 21, and 22, injection and extraction wells, and other wells. Exhibits 4 and 5 of the same report illustrate the extent of the diesel product plumes near ASTs 20 and 22, respectively, as of October 2010. The WPC reports, however, only addressed the progress of diesel product recovery in the Number 1 Tank Farm and did not address nor illustrate the dissolved BTEX constituents in groundwater associated with the plumes. Referring to Exhibit 6 (ERM, 2006), the BTEX constituent levels in January 2006 were below MDL in all the sampled wells except for two wells, PZ-3 and RW-6. At PZ-3, concentrations in groundwater of Benzene, Toluene, Ethyl-Benzene, and Xylene were 46, 5, 69, and 160 ug/L, respectively and at RW-6 only Ethyl-Benzene was detected at 3 ug/L. As such, it is likely that such relatively low BTEX concentrations would not act as a source for BTEX at the eastern BTEX plume located 1,000 feet away and side-gradient to the groundwater flow direction (as described in Section 4.0).

## 4.0 Potential for BTEX Plume Migration into the Number 2 Tank Farm Area

Referring to Exhibit 7 (Law, 1996), an east-west orientated groundwater divide is located across the western half of the site in the Number 1 Tank Farm from the vicinity of AST 20 to AST 6, where groundwater apparently flows to the north and to the south from the apex of the divide. The eastern extent of the divide terminates at Tank 6. From this exhibit, the water table slopes solely to the north in the eastern half of the site. Also, a groundwater surface topographic high exists in the south-central area of the site. Exhibit 8 (ERM, 2001) from the "February 8, 2001 First Quarterly Groundwater Quality Report" illustrates that the groundwater flow in the western side of the site within the Number 1 Tank Farm is primarily towards the northeast. The groundwater surface contours remained very similar in maps the following ERM quarterly reports from 2001 through 2003. Exhibit 9 (ERM, 2005) illustrates a topographic high to the east of the two western-most bermed areas of the Number 1 Tank Farm in 2004. Other quarterly ERM reports through January 2006 illustrate a similar topographic high feature in a series of ten groundwater elevation contour maps prepared, with the exception of one indicating a flow to the northeast. EIC believes that, due to the topographic barriers of the potentiometric surface therefore inhibit groundwater flow from the area of the western BTEX plumes towards the east. Consequently, BTEX contamination from the western plumes would not likely serve as a source for the eastern dissolved BTEX plume within the PCE foot-print.

Recent groundwater elevation contour maps in the area of the PCE plume for December 2008 and March 2009 that are depicted in Exhibit 10 and Exhibit 11, respectively (ERM, 2010) have indicated that the groundwater flow is from south-southwest to the north-northeast and not from the west. This is another indicator that the BTEX plumes on the west side of the site would not migrate side-gradient act as a source of BTEX in the PCE plume area. It is therefore possible that the sole source of BTEX in this area resulted from unknown source(s) within this area. It should be noted that EIC wasn't able to locate a recent site-wide groundwater elevation contour map, site-wide gauging data, nor site-wide groundwater sampling data to further investigate potential sources. As

part of the VRP, EIC has proposed a site-wide gauging/sampling event of selected wells to further evaluate the BTEX plumes.

## 5.0 Reduction in BTEX Plume Concentration at the Number 2 Tank Farm

Based on a comparison of four concentration maps of the individual BTEX constituents of Benzene, Toluene, Ethyl-Benzene, and Xylene shown in Figures 2-5, 2-6, 2-7, and 2-8, respectively (in the main body of the VRP application) that to the total BTEX map outlined in Exhibit 1 (Law, 1996), the concentration levels of BTEX have gradually diminished since 1996. Referring to Figure 2-8, the highest Xylene concentration of the current BTEX plume was 47,000 ug/L whereas the lowest Xylene concentration in 1996 (Exhibit 1), was 60,500 ug/L. This represents a 22 percent reduction in Xylene concentrations. During the VRP program, Vopak will further monitor the BTEX concentrations to determine whether the BTEX is naturally attenuating at the site.

## 6.0 List of Figures (in the main body of the VRP application)

Figure 2-5 Benzene Contour Map, September 2009 (EIC, 2011)
Figure 2-6 Toluene Contour Map, September 2009 (EIC, 2011)
Figure 2-7 Ethylbenzene Contour Map, September 2009 (EIC, 2011)
Figure 2-8 Xylene Contour Map, September 2009 (EIC, 2011)

## 7.0 List of Exhibits

Exhibit 1 Total BTEX Concentration Isopleths (LAW, 1996)
Exhibit 2 Product Thickness in Formation as of August 3, 2006 (ERM, 2006)
Exhibit 3 Surfactant Injection/Extraction Well Layout (WPC, 2011)
Exhibit 4 North Free Product Levels (10/15/2010) (WPC, 2011)
Exhibit 5 South Free Product Levels (10/15/2010) (WPC, 2011)
Exhibit 6 BTEX Dissolved Plume as of January 2006 (ERM, 2007)
Exhibit 7 Ground-Water Elevation Contour Map (Law, 1996)
Exhibit 8 Groundwater Potentiometric Surface Map (ERM, 2001)
Exhibit 9 June 9, 2004 Ground Water Contours (ERM, 2005)
Exhibit 10 Potentiometric Surface Map, December 2008 (ERM, 2010)
Exhibit 11 Potentiometric Surface Map, March 2009 (ERM, 2010)

## 8.0 References

Environmental Resources Management, 2010. *VOPAK Third Annual Report on Corrective Action, Hazardous Site Inventory Number 10464*. Savannah, Georgia, January 2010.

Environmental Resources Management, 2007. *Corrective Action Report, VOPAK Savannah Terminal, Semi-Annual Second-Half 2006,* January 17, 2007.

Environmental Resources Management, 2005. *Corrective Action Report, VOPAK Savannah Terminal, August 2005,* September 1, 2005.

Environmental Resources Management, 2001. *First Quarterly Groundwater Quality Report, VOPAK Terminal, Savannah, Georgia,* February 8, 2001.

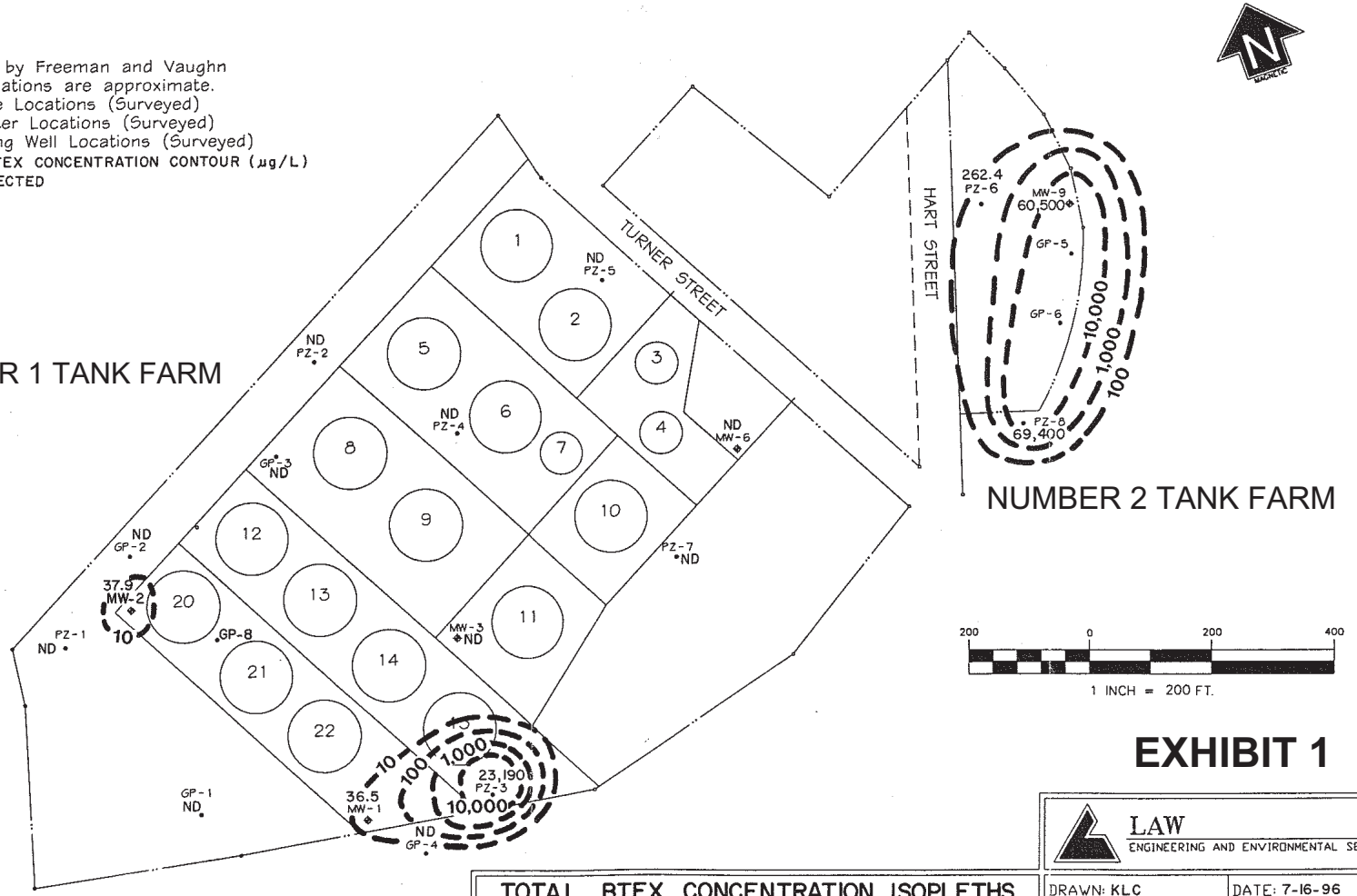
Environmental Resources Management, 1999. *Paktank Corporation, Garden City, Georgia, Spill Report and Remediation Plan,* August 13, 1999.

LAW Engineering and Environmental Services, 1996. *Report of Ground-Water Assessment Paktank Corporation – Savannah Terminal, Georgia Port Authority, Garden City, Georgia*, September 3 1996.

WPC, A Terracon Company, 2011, *2010 Remediation Activities Report, Vopak Terminal Savannah Inc., Garden City, Georgia,* January 24, 2011

# EXHIBITS

Notes: Survey performed by Freeman and Vaughn
Tank and dike locations are approximate.
GP-1 = Geoprobe Locations (Surveyed)
PZ-1 = Piezometer Locations (Surveyed)
MW-1 = Monitoring Well Locations (Surveyed)
100 = TOTAL BTEX CONCENTRATION CONTOUR (µg/L)
ND = NOT DETECTED




# EXHIBIT 1

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

## TOTAL BTEX CONCENTRATION ISOPLETHS (6-12-96)

PAKTANK CORPORATION
GEORGIA PORT AUTHORITY
SAVANNAH, GEORGIA

| | |
|---|---|
| DRAWN: KLC | DATE: 7-16-96 |
| DFT CHECK: DLB | SCALE: AS SHOWN |
| ENG CHECK: —— | JOB: 31040-6-0671 |
| APPROVAL: DCS | FILE: \PAKTANK\BASE |
| REFERENCE: | DRAWING NO.: 4 |

12598_1-07_CAR.DWG 1/17/07 1-200 MDH REV

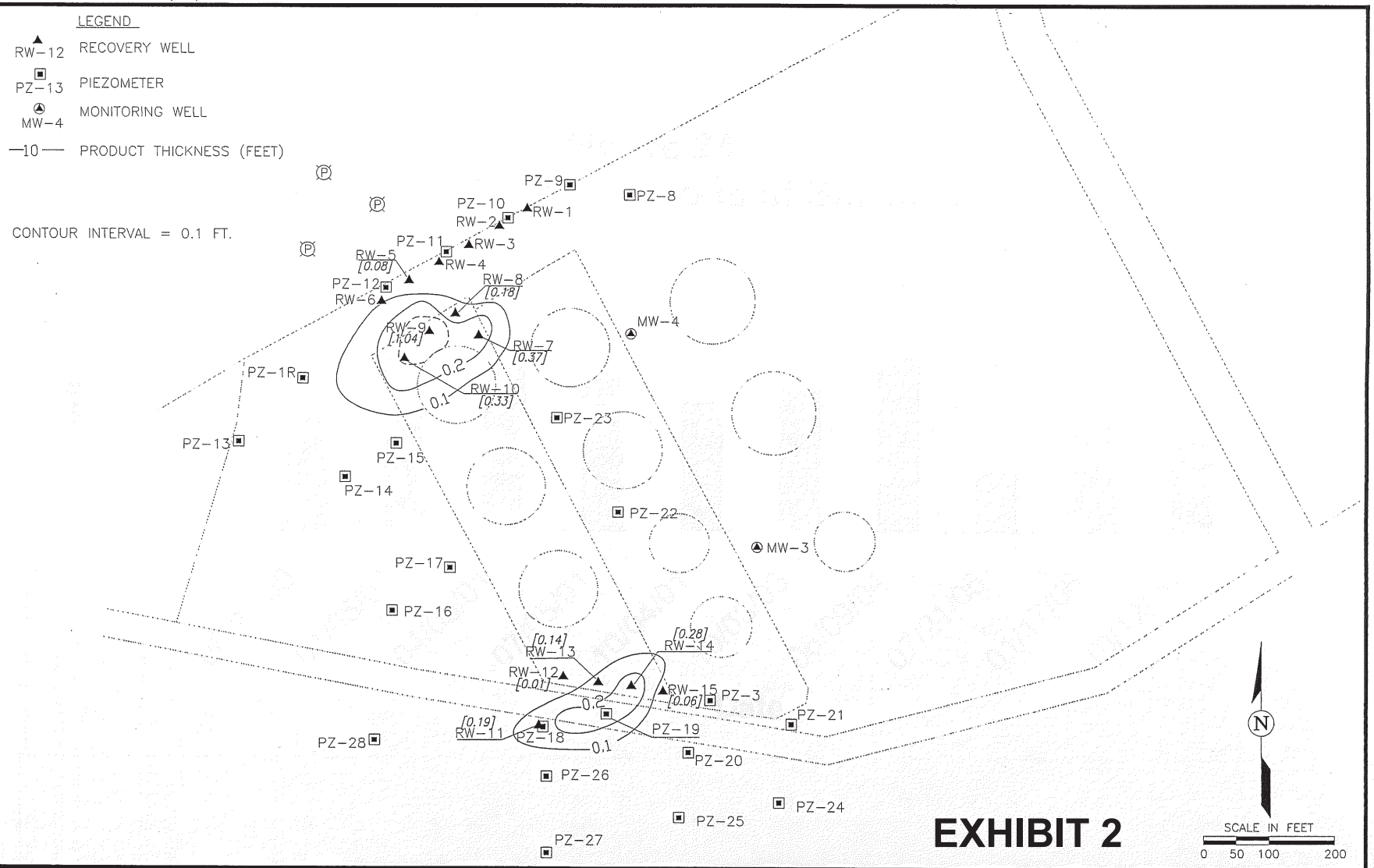
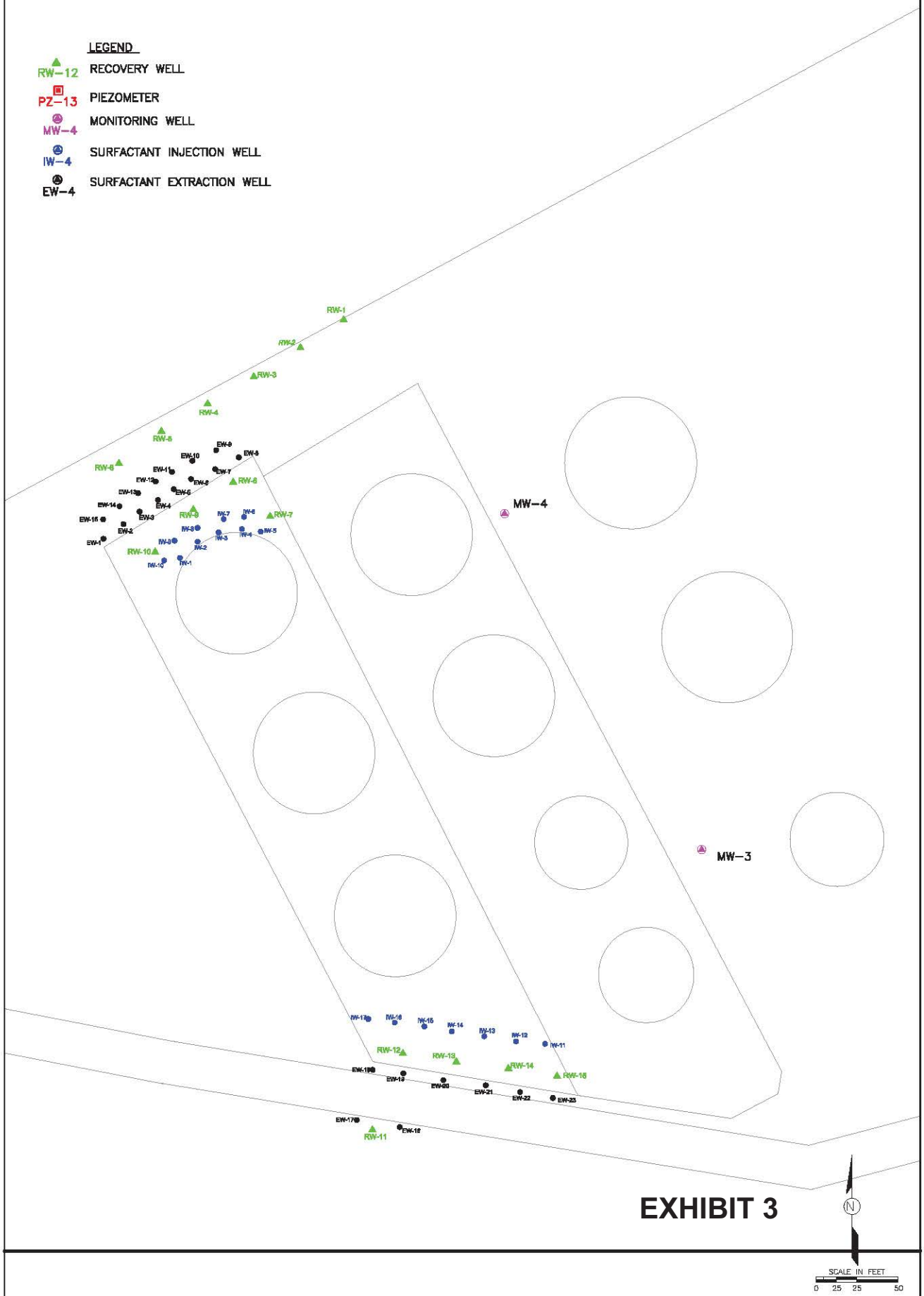


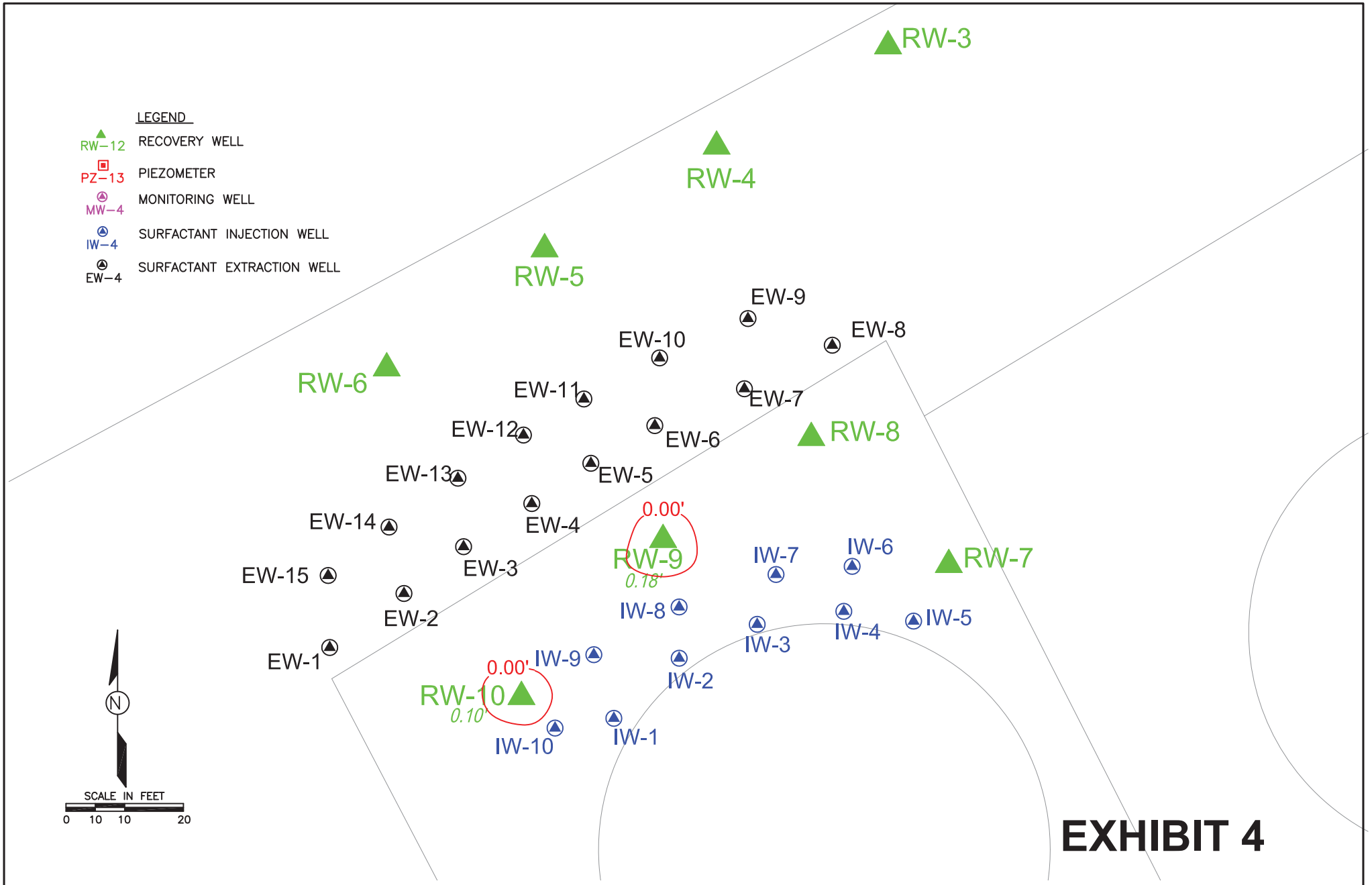

**EXHIBIT 2**

| | | |
|---|---|---|
| ERM Environmental Resources Management | **PRODUCT THICKNESS IN FORMATION AS OF AUGUST 3, 2006**<br>VOPAK SAVANNAH TERMINAL<br>GARDEN CITY, GEORGIA | FIGURE<br>**23** |




# EXHIBIT 3

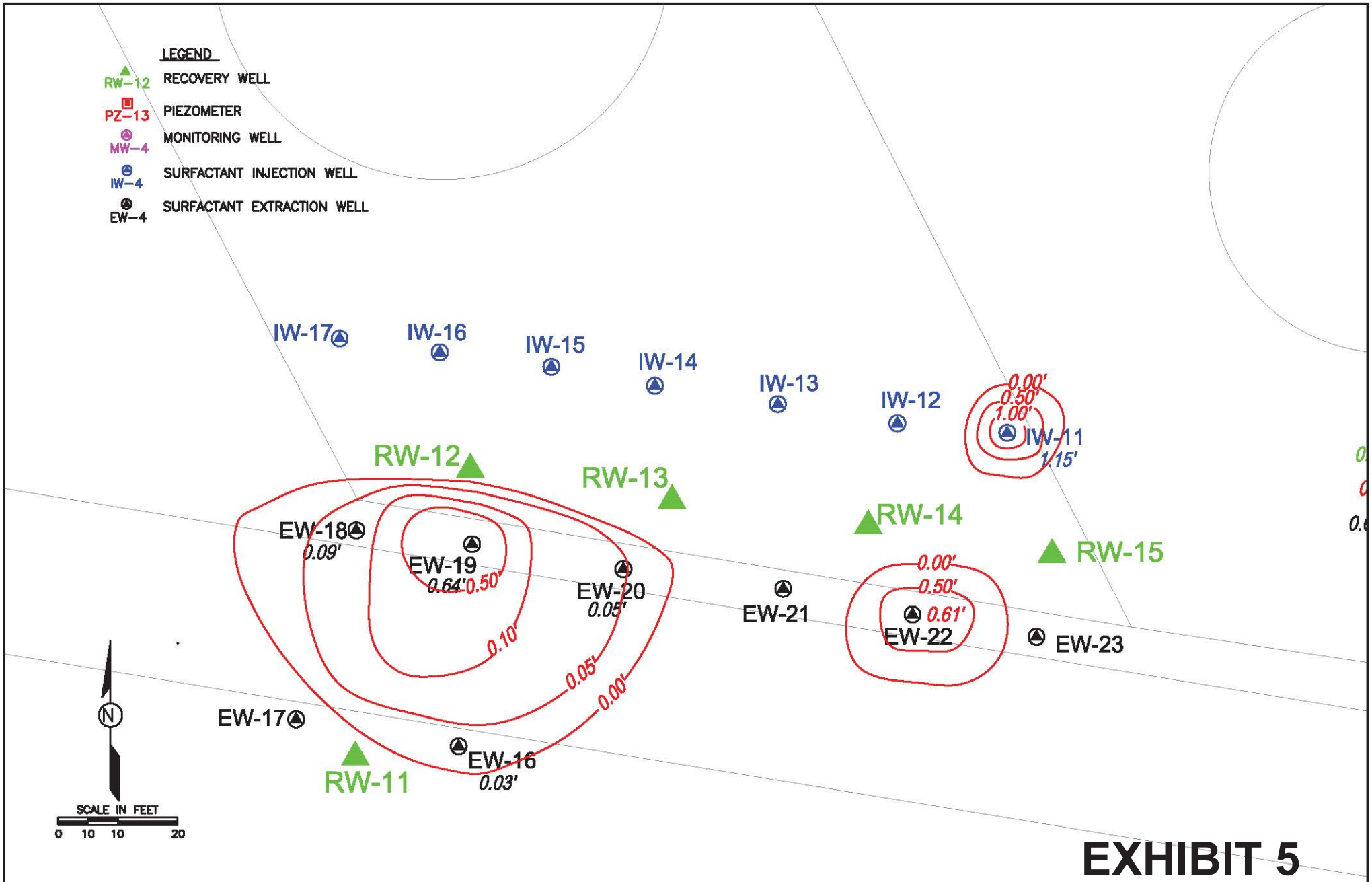
| | | | | | |
|---|---|---|---|---|---|
| Project Mngr: JRR | Project No. ES077123 | Terracon Consulting Engineers and Scientists | Surfactant Injection/Extraction Well Layout | FIG. No. |
| Drawn By: JM | Scale: As Shown | | USTs & ASTs | 2 |
| Checked By: WSA | File No. ES077123.DWG | | Vopak Savannah Terminal | |
| Approved By: WSA | Date: DECEMBER 29, 2010 | 2201 Rowland Avenue Savannah, Georgia 31404 Phone: 912.629.4000 Fax: 912.635.4001 | Savannah, Georgia | |




# EXHIBIT 4

| | | | |
|---|---|---|---|
| Project Mngr: JRR | Project No. ES077123 | Terracon Consulting Engineers and Scientists | North Free Product Levels (10/15/2010) |
| Drawn By: JM | Scale: 1" = 20' | 2201 Rowland Avenue Savannah, Georgia 31404 | USTs & ASTs |
| Checked By: WSA | File No. ES077123.DWG | Phone: 912.629.4000 Fax: 912.629.4001 | Vopak Savannah Terminal |
| Approved By: WSA | Date: DECEMBER 29, 2010 | | Savannah, Georgia |

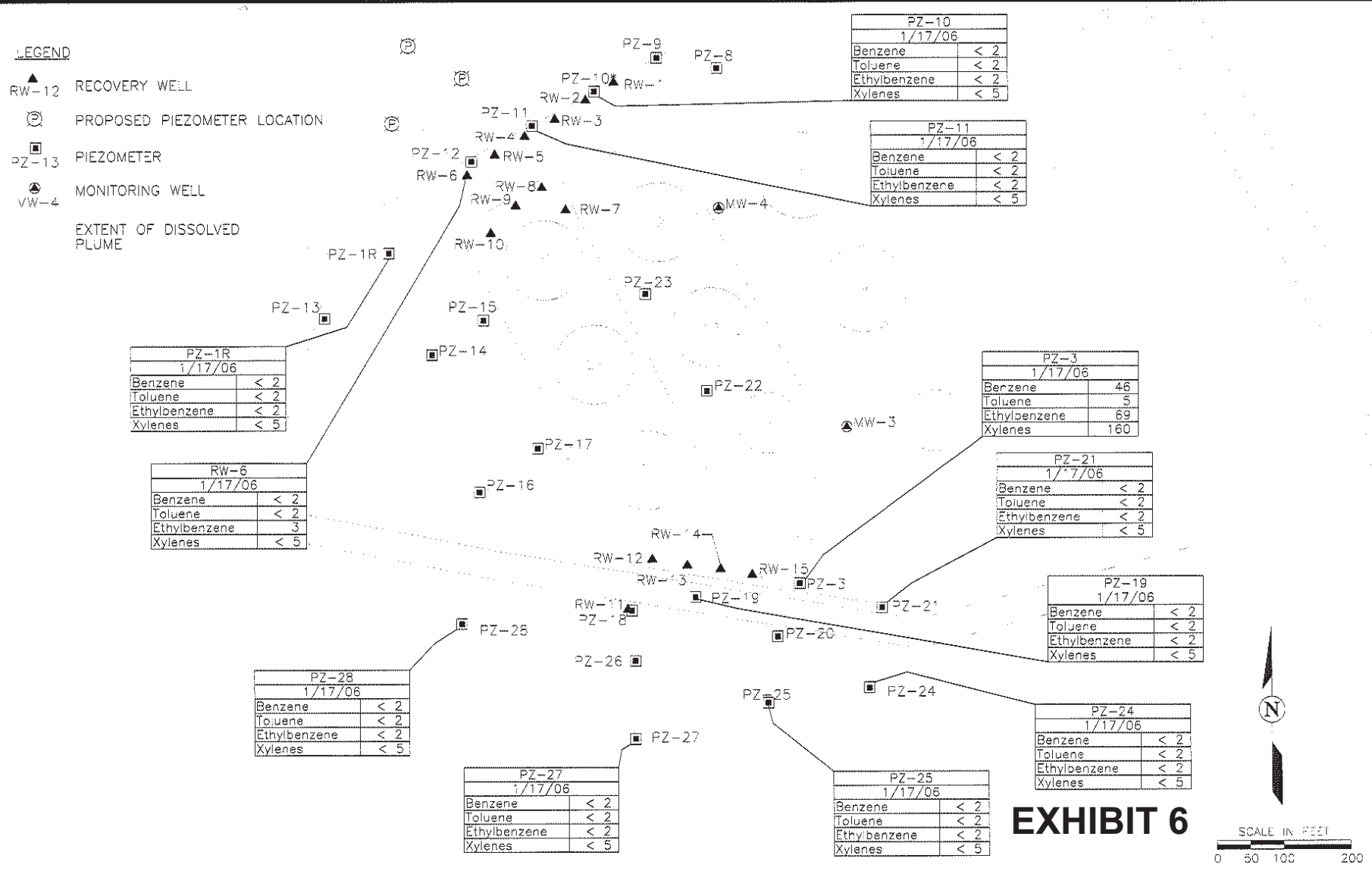
FIG. No. 4i




# EXHIBIT 5

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Mngr: JRR | Project No. ES077123 | Terracon Consulting Engineers and Scientists | South Free Product Levels (10/15/2010) | FIG. No. |
| Drawn By: JM | Scale: 1" = 20' | | USTs & ASTs | 5i |
| Checked By: WSA | File No. ES077123.DWG | 2201 Rowland Avenue Savannah, Georgia 31404 | Vopak Savannah Terminal | |
| Approved By: WSA | Date: DECEMBER 29, 2010 | Phone: 912.629.4000 Fax: 912.629.4001 | Savannah, Georgia | |

12598_1-06_CAR.DWG 1/26/06 1-200 MDH REV



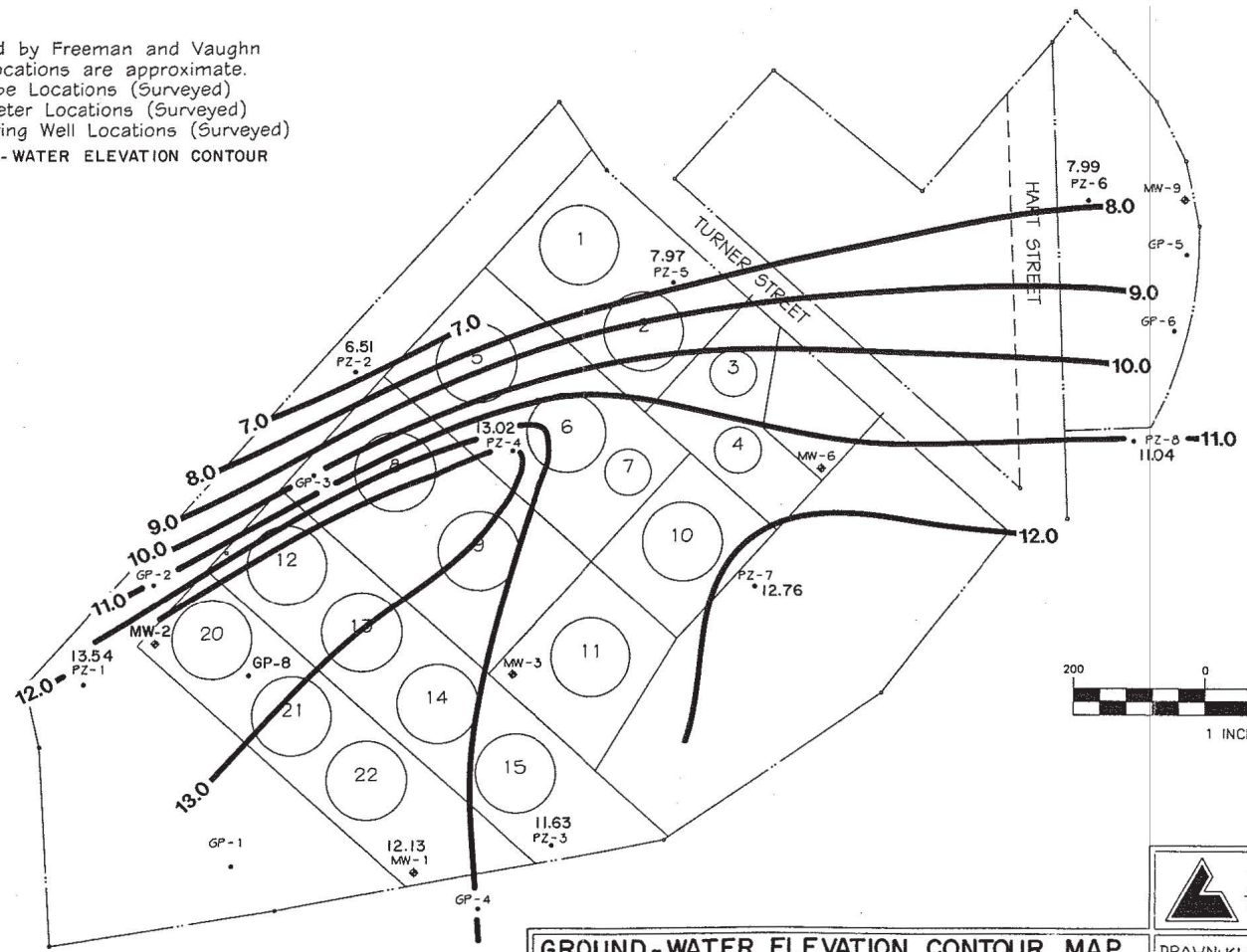

Environmental Resources Management

# BTEX DISSOLVED PLUME AS OF JANUARY 2006

VOPAK SAVANNAH TERMINAL
GARDEN CITY, GEORGIA

FIGURE 1

Notes: Survey performed by Freeman and Vaughn
Tank and dike locations are approximate.
GP-1 = Geoprobe Locations (Surveyed)
PZ-1 = Piezometer Locations (Surveyed)
MW-1 = Monitoring Well Locations (Surveyed)
12.0 = GROUND-WATER ELEVATION CONTOUR




200 0 200 400
1 INCH = 200 FT.

# EXHIBIT 7

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

## GROUND-WATER ELEVATION CONTOUR MAP (6-12-96)

PAKTANK CORPORATION
GEORGIA PORT AUTHORITY
SAVANNAH, GEORGIA

| | |
|---|---|
| DRAWN: KLC | DATE: 7-16-96 |
| DFT CHECK: DLB | SCALE: AS SHOWN |
| ENG CHECK: —— | JOB: 31040-6-0671 |
| APPROVAL: DCS | FILE: \PAKTANK\BASE |
| REFERENCE: | DRAWING NO.: 3 |

3200_11301GWF.DWG 01-29-01 IS

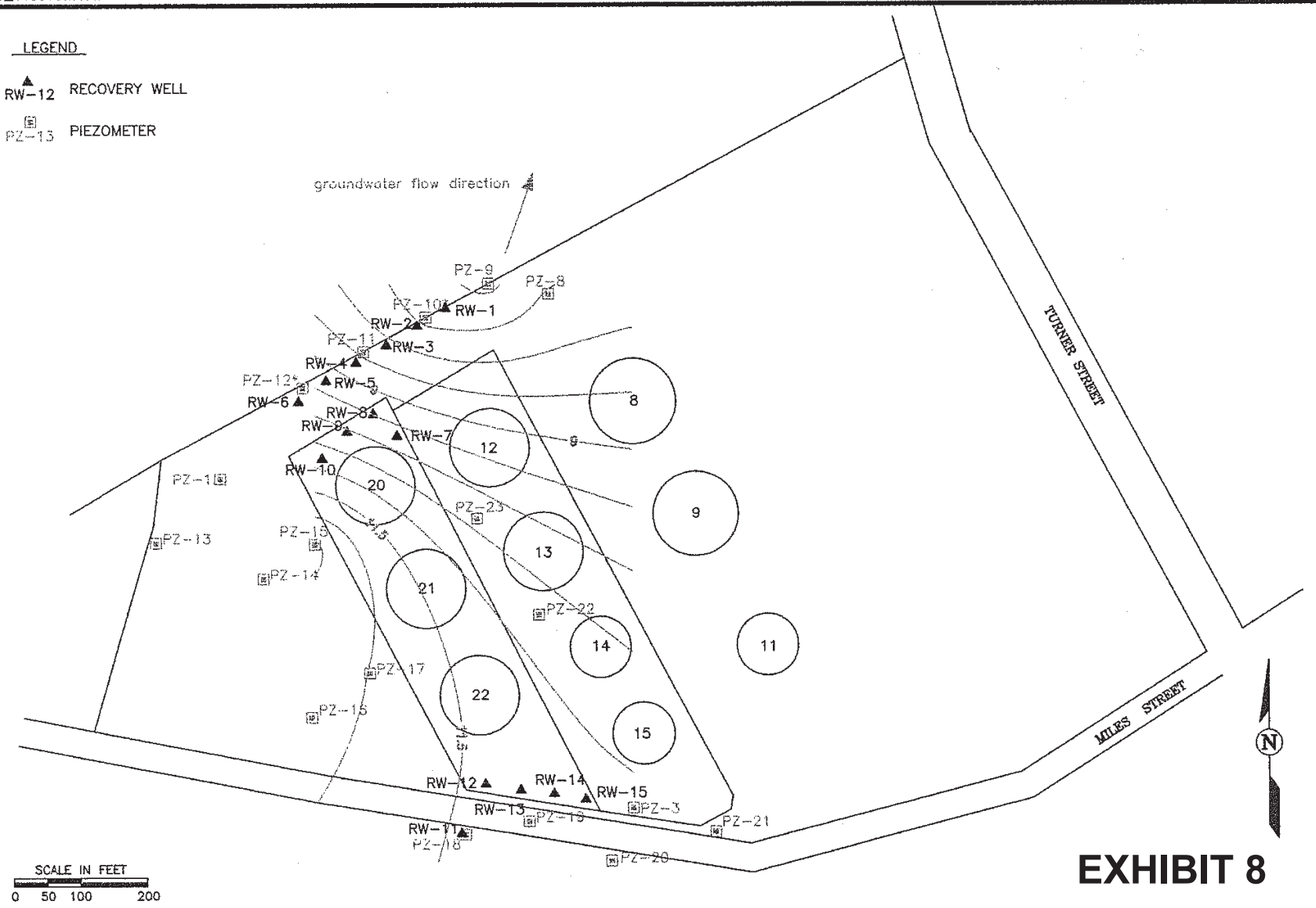
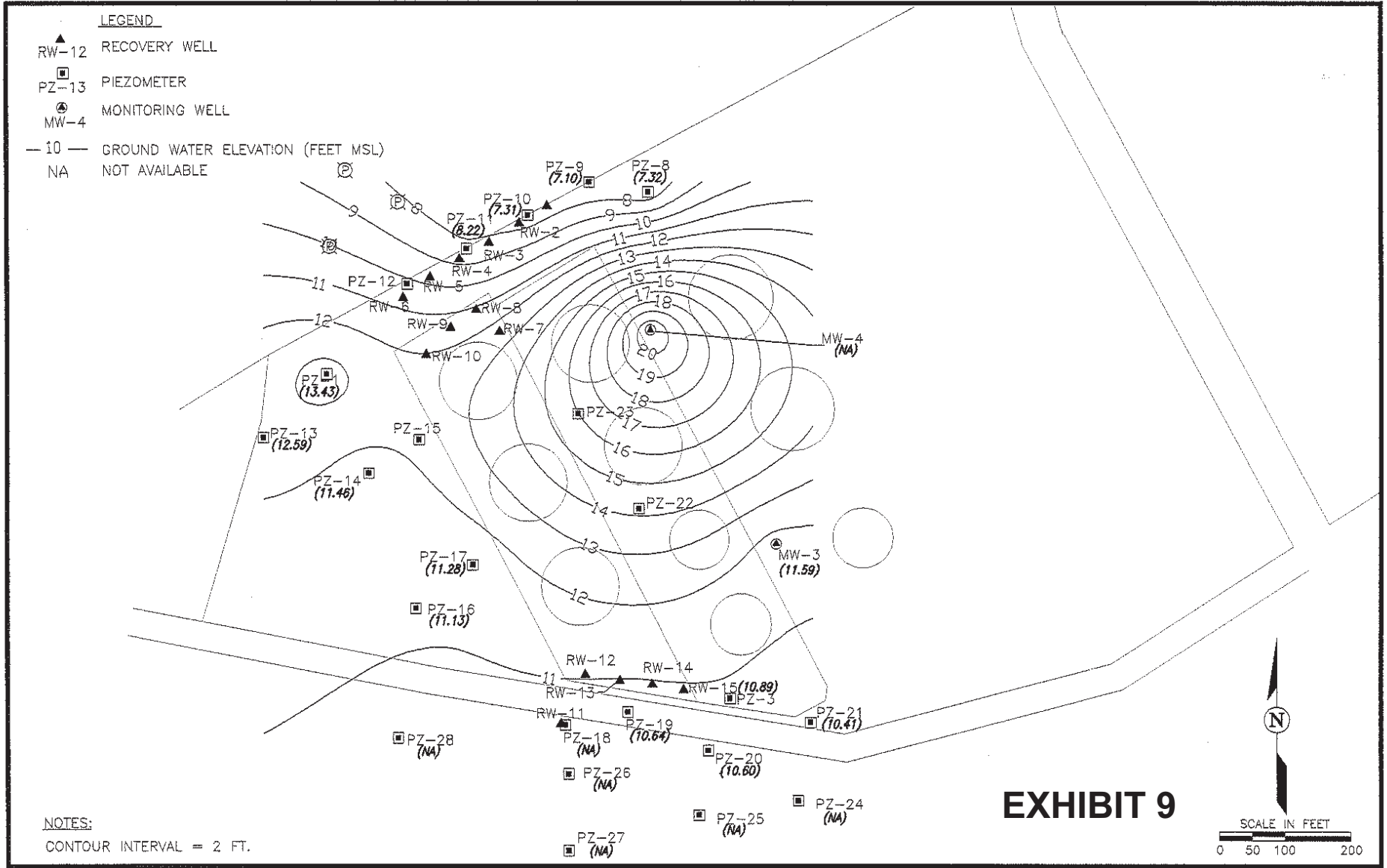



**EXHIBIT 8**

| | | |
|---|---|---|
| **Environmental Resources Management** (ERM) | **GROUNDWATER POTENTIOMETRIC SURFACE MAP**<br>**JANUARY 13, 2001**<br>**VOPAK**<br>**SAVANNAH TERMINAL** | FIGURE<br>**1** |

12598_8-05_CAR.DWG 8/29/05 1-200 MDH REV



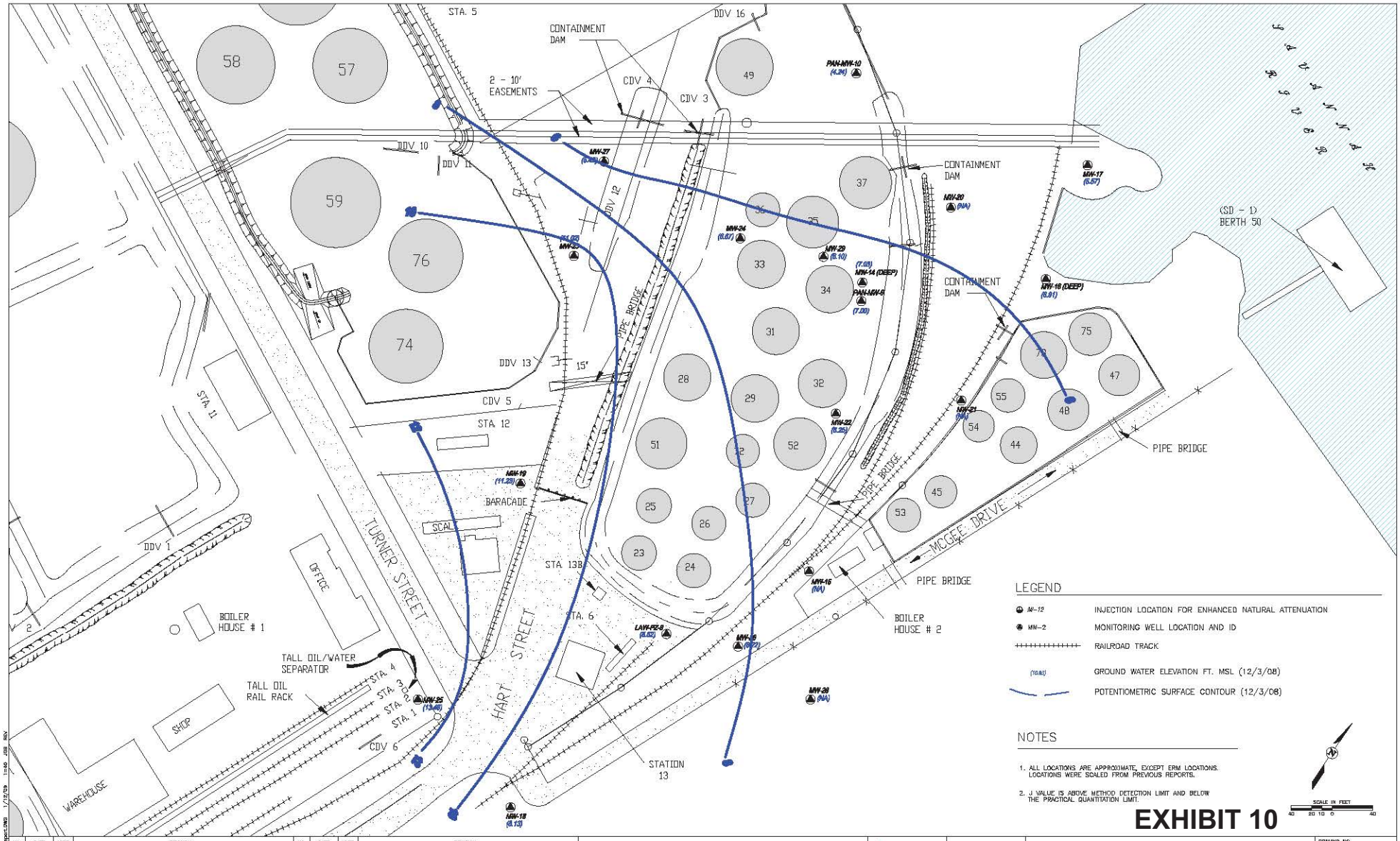

NOTES:
CONTOUR INTERVAL = 2 FT.

**EXHIBIT 9**

ERM **Environmental Resources Management**

# JUNE 9, 2004 GROUND WATER CONTOURS
PRE HVE
VOPAK SAVANNAH TERMINAL
GARDEN CITY, GEORGIA

FIGURE 2




# EXHIBIT 10

| NO. | DATE | APPR. | REVISION | NO. | DATE | APPR. | REVISION |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**THIRD ANNUAL REPORT ON CORRECTIVE ACTION**

VOPAK (FORMERLY PAKTANK CORPORATION) SAVANNAH, GA

| | |
|---|---|
| DRAWN BY: J. BYRD | PROJECT ENGINEER: J. BYRD |
| DESIGN ENGINEER: S. THOMPSON | PROJECT MANAGER: S. THOMPSON |

ERM

**NOT FOR CONST-RUCTION**

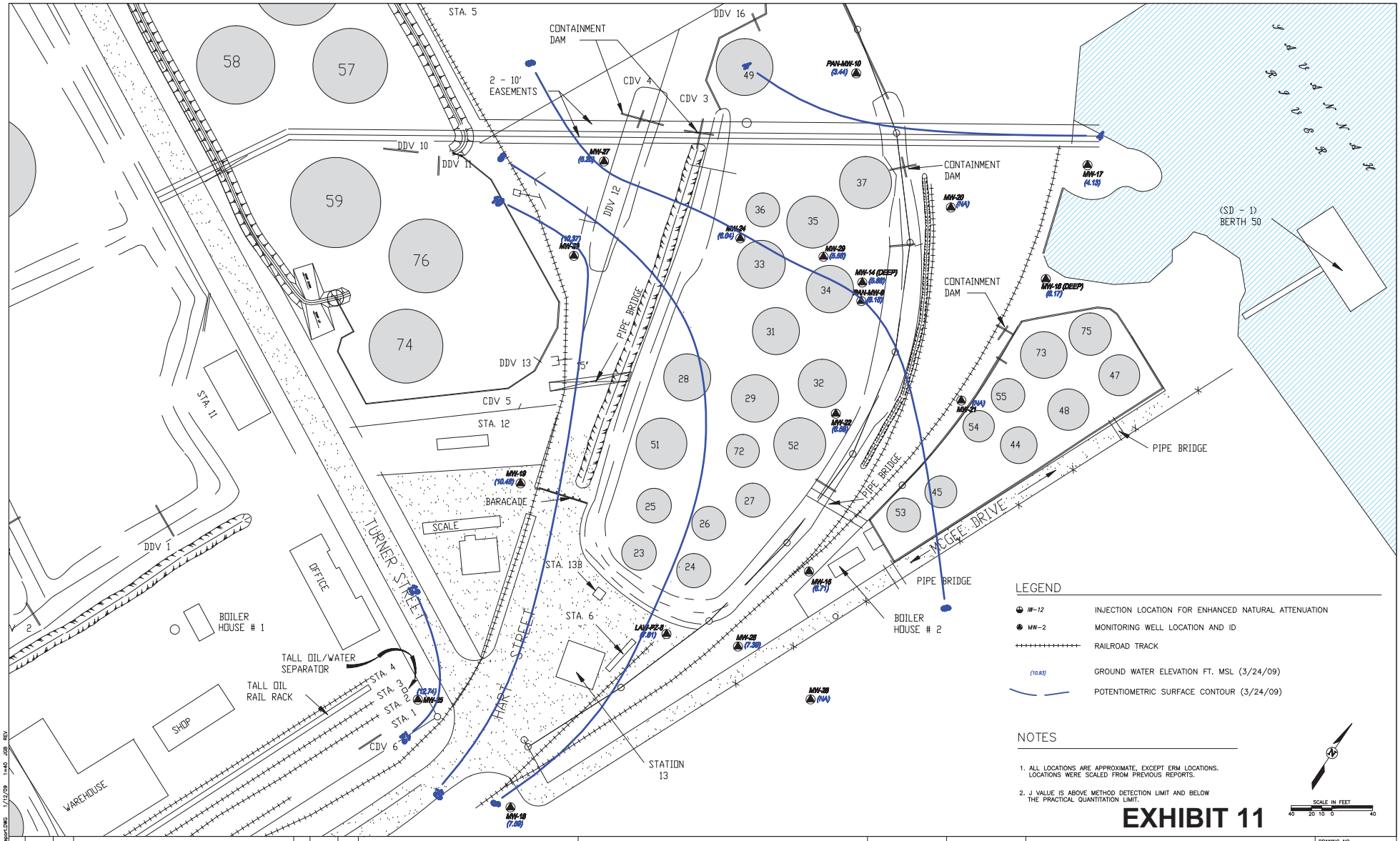
**POTENTIOMETRIC SURFACE MAP DECEMBER 2008**

| | |
|---|---|
| SCALE: AS SHOWN | DATE: JANUARY 12, 2009 |
| PROJECT NO.: 110235 VOPAK | AutoCAD R-2002: 110235_Vopak 2008 Annual Report.DWG |

DRAWING NO. 4-1

REV. NO. 1

SHEET OF




## LEGEND

- IW-12 — INJECTION LOCATION FOR ENHANCED NATURAL ATTENUATION
- MW-2 — MONITORING WELL LOCATION AND ID
- RAILROAD TRACK
- (10.93) — GROUND WATER ELEVATION FT. MSL (3/24/09)
- POTENTIOMETRIC SURFACE CONTOUR (3/24/09)

## NOTES

1. ALL LOCATIONS ARE APPROXIMATE, EXCEPT ERM LOCATIONS. LOCATIONS WERE SCALED FROM PREVIOUS REPORTS.
2. J VALUE IS ABOVE METHOD DETECTION LIMIT AND BELOW THE PRACTICAL QUANTITATION LIMIT.

SCALE IN FEET
40 20 10 0 40

# EXHIBIT 11

| NO. | DATE | APPR. | REVISION | NO. | DATE | APPR. | REVISION |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**THIRD ANNUAL REPORT ON CORRECTIVE ACTION**

VOPAK (FORMERLY PAKTANK CORPORATION) SAVANNAH, GA

| | |
|---|---|
| DRAWN BY: J. BYRD | PROJECT ENGINEER: J. BYRD |
| DESIGN ENGINEER: S. THOMPSON | PROJECT MANAGER: S. THOMPSON |

ERM

NOT FOR CONST-RUCTION

**POTENTIOMETRIC SURFACE MAP MARCH 2009**

| | |
|---|---|
| SCALE: AS SHOWN | DATE: JANUARY 12, 2009 |
| PROJECT NO.: 110235 VOPAK | AutoCAD R-2002 110235_Vopak 2009 Annual Report.DWG |

DRAWING NO. 4-2
REV. NO. 1
SHEET OF

REV JOB 1=40 1/12/09 110235_Vopak 2009 Annual Report.DWG

HSI SITE NO. 10464, PCE REMEDIATION, VOPAK TERMINAL SAVANNAH

# COMPLIANCE STATUS REPORT

# EXHIBIT B:
# Fourth Quarter 2011 (Baseline) VIRP Report from the First VIRP Semi-annual Monitoring Report

**(Included on Enclosed CD)**

**ENVIRONMENTAL INTERNATIONAL CORPORATION**
161 Kimball Bridge Road, Suite 100, Alpharetta, GA 30009
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*Electronically Transmitted*

February 27, 2012

Mr. Branden Jones
VOPAK Terminal Savannah, Inc.
P.O. Box 7390
Savannah, Georgia 31418-7390

**Re: Report on Fourth Quarter 2011 (Baseline) VIRP Quarterly Monitored Natural Attenuation (MNA) Ground Water Monitoring in CVOC/VOC Plumes, VOPAK Terminal Savannah Inc., Savannah, Georgia**

File: 390020

Dear Mr. Jones:

VOPAK Terminal Savannah, Inc. (VOPAK) retained Environmental International Corporation (EIC) to perform the first quarterly Monitored Natural Attenuation (MNA) groundwater sampling event during the fourth Quarter of 2011 from site wells since the approval of VOPAK's Voluntary Investigation and Remediation Plan (VIRP) submittal. In the GA EPD (EPD) August 31, 2011 VIRP approval letter addressed to VOPAK, the EPD specified "quarterly groundwater monitoring to evaluate [the potential for] MNA…" was required. The quarterly sampling events will continue under the VIRP program schedule or as required by the EPD.

The previous groundwater sampling event of record was conducted from April 26 to 27, 2010 by WPC and is documented in the WPC May 24, 2010 "Report of Groundwater Sampling" (WPC, 2010). During that sampling event, and preceding sampling events, numerous wells were excluded from sampling since they were inaccessible, missing, or destroyed.

As documented in a separate EIC report (EIC, 2011b) and in Section 1.0, EIC repaired or re-drilled five selected wells to better define the prevailing contaminant plume. The analytical data from the current sampling event therefore establishes a baseline of prevailing contamination conditions from which contaminant concentration trends may be tracked. Subsequent analysis is essential in establishing trends to verify whether natural attenuation of contaminants is in progress and determine if changes to the remedial strategy are required. The trend analysis is also useful in verifying if remedial objectives to meet Risk Reduction Type 4 Standards (RRS), established in the VIRP, are being met. Trends in contaminant degradation rates, and plume stability will be determined using data collected from subsequent quarterly analyses.

Since the five new wells had not been surveyed and since some well repairs led to changes in the top of casing (TOC) elevations, and also since certain site features were not shown or were incorrectly shown on current site maps, EIC contracted a Georgia-licensed land surveyor to conduct a survey of

these wells and site features. This survey is documented in a separate EIC report (EIC, 2011c), and in Section 1.0.

This program entails collecting groundwater samples from wells within the previously established area of concern with dissolved chlorinated volatile organic compounds (CVOCs) and volatile organic compounds (VOCs) contamination for analysis. During this event, EIC collected 19 groundwater samples from 19 wells.

Based on subsequent sampling events, EIC conducts trend analysis to verify whether natural attenuation of contaminants is in progress since the baseline sampling event and to determine if changes to the remedial strategy are required. This trend analysis is also useful in verifying if remedial objectives to meet Risk Reduction Type 4 Standards (RRS) are being met. Trends in contaminant degradation rates, and plume stability were determined using data collected from both sampling events.

# 1.0 PROJECT BACKGROUND

The site is currently listed on the State of Georgia Hazardous Site Response Act (HSRA) site inventory as Site Number 10464 Paktank Corporation – Savannah Terminal (now VOPAK). A tetrachloroethene, also known as perchloroethene (PCE), release occurred at the VOPAK Terminal (site) between December 1972 and April 1975 from Tank 24 in Tank Farm #2 impacting the soil and groundwater (ERM, 2005). Over the years the PCE has degraded into other dissolved CVOCs including trichloroethene (TCE), cis 1, 2 dichloroethene (1,2-DCE), and vinyl chloride (VC). These CVOCs resulted in a contaminated groundwater plume. To a limited extent, Benzene, Ethylbenzene, Toluene, and Xylenes (BTEX) hydrocarbons also occur within the CVOC plume. These eight contaminants constitute the primary constituents of concern (COC) that have been tracked under the previous monitoring and remedial program.

Prior to the approval of the VIRP, mitigation of the PCE release was enforced under consent order No. EPD-HSR-384 issued by the Georgia Environmental Protection Division (EPD). The consent order involved implementation of an approved corrective action plan (CAP) (ERM, 2005). The CAP projected a 20-year cleanup time period.

The remedial action under the CAP entailed enhanced bioremediation with natural attenuation. As such, sodium and ethyl lactate, soybean oil and pH buffer was periodically injected into 18 injection wells (ERM, 2010). After 8 injection events for bioremediation, however, VOPAK realized that the PCE levels had actually increased in a number of wells. The end result was the potential for perpetual remediation at substantial operation and maintenance costs.

Consequently, EIC recommended that VOPAK enroll in the EPD's Voluntary Remediation Program (VRP) to define a pathway for conducting remediation in a more effective and timely manner. EIC originally submitted the VIRP application to the EPD in October 2010. After a review by the EPD, EIC submitted a revised VIRP application in April 2011 (EIC, 2011a). The EPD

approved the VRP application with certain conditions on August 31, 2011. As such, the VRP standards now supersede the CAP requirements.

Under the approved VIRP, all available monitoring wells within the PCE/BTEX contaminant plume were proposed by EIC for the monitored natural attenuation (MNA) remedial approach. These included wells previously utilized for MNA (MW-17R, MW-18R, PAN-MW-9, and MW-22R) and "performance monitoring wells" that included shallow wells PAN-MW-10, MW-16, MW-19, MW-23, MW-24R, MW-25, MW-26R, MW-27, and deep well MW-15. EIC proposed that existing monitoring wells LAW-PZ-8R and MW-29, that had previously not been utilized, would be added for MNA/performance monitoring. EIC also proposed that shallow monitoring wells MW-20, MW-21, and MW-28, that had been reported as missing in a previous Well Inventory Checklist (WPC, 2010), would be replaced. The previous well inventory had also listed the deep well MW-14 as missing, however, considering that MW-15 was also a deep well, EIC deferred replacing MW-14 until an evaluation for deeper contamination is completed.

### 1.1 REPLACEMENT WELLS

Accordingly, during two site visits in April 2011, EIC installed three replacement wells for MW-20, MW-21, and MW-28 and also two additional replacement wells for MW-22R (which had become filled with sediment and could not be repaired) and MW-27 (which could not be located) that EIC determined were necessary during the first site visit (EIC, 2011b). As such, MW-20 was replaced with MW-32, MW-21 with MW-30, MW-22R with MW-33, MW-27 with MW-31, and MW-28 with MW-34, respectively. When MW-31 was installed, however, EIC discovered what is presumed to be MW-27 in good condition (EIC, 2011b). During well installation activities, EIC also inventoried the location and condition of injection wells (EIC, 2011b).

### 1.2 WELL SURVEY

On June 29 and 30, 2011 a Georgia-licensed land surveyor commissioned by EIC surveyed the location and TOC elevations (X, Y, Z data) of 19 monitoring wells (the same 19 wells EIC sampled) and certain site features selected by EIC (EIC, 2011c) in the NAVD 29 Datum convention. EIC selected this datum convention as it is consistent with previous wells surveys in this area. Site features surveyed included fence lines, road edges, fuel tanks, and a vehicle scale shed on adjacent property. EIC determined from the survey that various wells, site features, scale, and the north arrow had been incorrectly depicted in previous base maps. From the data and maps provided by the surveyor, EIC updated the site basemap to correctly illustrate the locations of wells and the site features mentioned above.

## 2.0 PROJECT OBJECTIVES

In proposal 19-103570, EIC proposed to collect groundwater samples from 19 monitoring wells illustrated in Figure 1. Since the previous injection program was terminated in 2009, the current

sampling program will establish a new baseline. Data from this sampling program combined with subsequent sampling events, will assist VOPAK in meeting the following goals set forth in the VIRP. These include:

- Establish a baseline horizontal and vertical extent of the prevailing contaminant plume.
- Review plume stability.
- Track MNA by monitoring the groundwater concentrations of VOCs/CVOCs within the existing plume.
- Determine if the prevailing groundwater contaminant concentrations meet or is trending towards meeting the established RRS.

The following sections outline the tasks performed by EIC to meet these objectives.

# 3.0 GROUNDWATER SAMPLING FIELD PROGRAM

During the period from October 25 through October 27, 2011, EIC collected 19 groundwater samples from 19 wells identified in Section 1.0 to submit for VOC/CVOC analysis. The following sections describe EIC's sampling technical approach.

## 3.1 SAMPLING PROTOCOL

The groundwater sampling program was conducted in accordance with the current U.S. EPA groundwater sampling procedure "Field Branches Quality System and Technical Procedures" (FBQSTP) per the EPD. Each monitoring well was gauged, purged, and sampled following the "low-flow" purge technique established in the standard operating procedure (SOP) SESDPROC-301-R1 under the FBQSTP.

## 3.2 SITE ACCESS

Prior to EIC's site visit, EIC coordinated with the Georgia Ports Authority (GPA) and VOPAK in gaining access to collect groundwater samples from off-site wells MW-17, MW-32, and MW-34 located on GPA property. Since access to MW-34 was only possible through GAF Materials Corporation (GAF) property, EIC obtained GAF's permission to enter their facility to sample this well.

## 3.3 WELL-HEAD VOC MONITORING

Prior to purging, EIC measured volatile organic compounds (VOCs) concentrations in air in parts per million (PPM) with a photo ionization detector (PID). EIC collected three measurements at each well. The first was a background measurement within 2 feet of the TOC with either the stickup lid or flush-to-grade (FTG) vault closed. After EIC had opened the stickup lid or FTG vault, but had not yet opened the well cap on the TOC, EIC took a second VOC reading of air

within the formerly enclosed space. Finally, after EIC had opened the well cap, EIC took a third VOC reading of air within the well head.

## 3.4 GROUNDWATER SAMPLING PROCEDURE

EIC gauged each well with a Solinst Model 122 interface meter (oil/water interface probe) to determine the depth to groundwater. Based on the depth to groundwater, EIC determined the depth to set the sampling tubing intake. The tubing intake was typically set greater than 2 feet below the groundwater surface but was lowered below this depth if the water level dropped to the depth of the intake during pumping. At MW-15, however, the intake was set approximately 6 feet below the water level to prevent the recovery of apparent vegetable oil. A Masterflex Model 7570-10 peristaltic pump was utilized for purging and sampling. Dedicated disposable ¼-inch internal diameter (ID) Teflon tubing was utilized in all wells for purging. Groundwater from each monitoring well was pumped via the peristaltic pump through a Horiba U-52-2 Water Quality Meter with a flow-through cell. During purging, water quality parameters, including temperature, specific conductivity, pH, dissolved oxygen (DO), turbidity, and oxidation-reduction potential (ORP); rate of evacuation; and depth to water (well diameter permitting) were measured at approximately 5-minute intervals until certain parameters stabilized per SESDPROC-301-R1. EIC considered that parameters were stabilized when 3 consecutive readings were within ± 0.1 for pH, ± 10% for Specific Conductivity, or ± 10% for Temperature and when Turbidity was at or below 10 Nephelometric Turbidity Units (NTUs) or had stabilized (after reasonable attempts). These measurements were recorded on EIC's Well Purging and Sampling Data field logs (Attachment A). EIC also recorded field activities in a field book. EIC deposited all purge water into a steel 55-gallon drum provided by VOPAK for later disposal by VOPAK. EIC placed a green Non-Hazardous label on this drum.

At each well, after water quality parameters stabilized, groundwater samples were then collected, per SESDPROC-301-R1, utilizing the "soda straw method" whereby the Teflon tube was pulled from the well, the peristaltic pump run in reverse, and sample bottles filled from the tube. To ensure that no groundwater from the peristaltic pump head reached the sample bottles during sample collection, EIC utilized a minimum of 20 feet of tubing. All 19 samples were submitted to Test America (lab), a Georgia-certified laboratory located in Savannah, for analysis of volatile organic compounds via EPA method 8260B.

EIC initiated field sampling activities on the afternoon of October 25 at well MW-34 on a Georgia Ports Authority (GPA) property easement adjacent to GAF property. EIC then proceeded to collect groundwater samples from MW-32 and then the nearby MW-17R on GPA property. On October 26, EIC collected a new 55-gallon steel drum and a wooden pallet from the drum storage area to store purge water and placed this drum along the west shoulder of Hart Street between Tank Farm #2 and Tank Farm #3. EIC then continued to collect groundwater samples from the following wells in the following order: MW-16, MW-30, MW-26R, MW-15, MW-18R, MW-24R, MW-29, MW-33, PAN-MW-9, PAN-MW-10, and LAW-PZ-8R.

Based on observations during gauging, EIC determined that in well MW-15, an apparent degraded vegetable oil layer was floating on the surface. This fluid was apparently mistakenly poured into this well during previous injection activities. To prevent the recovery of this fluid from contaminating

the groundwater sample, EIC employed a custom-built apparatus consisting of a decontaminated 6-inch segment of ½-inch ID plastic tubing sealed with electrical tape on one end and with a hole on the opposite end to attach a string. EIC attached a string to this device, filled it with DI water, placed the end of the ¼-inch Teflon tubing in this device and lowered it and the tubing through the oil until it was 6.10 feet below the water surface. EIC then lowered the device approximately 3 feet below the tubing intake. EIC then operated the peristaltic pump and collected a groundwater sample. After the tubing was retrieved, the device and string was removed from the well and disposed of.

On October 27, EIC completed collecting groundwater samples from the remaining wells in the following order: MW-25, MW-19, MW-23, MW-31, and MW-27. Table 1 summarizes groundwater quality field parameters after stabilization and prior to sample collection. It should be noted that at 10 of the wells, turbidity levels of 10 NTUs or lower could not be reached after reasonable attempts were made to achieve this after pH, conductivity, and temperature parameters had stabilized. Table 2 summarizes the well purging data for each well. As discussed in Section 3.1, EIC gauged each well prior to purging. This initial gauging data is tabulated in Table 3. EIC coordinated the pickup of the first 14 samples and a trip blank by the lab the morning of October 27. EIC hand-delivered the remaining 5 samples and a trip blank to the laboratory the afternoon of October 27. The laboratory report is included as Attachment B.

## 4.0 QUALITY ASSURANCE AND QUALITY CONTROL

Two trip blank samples supplied by the lab, that remained in each sample set, were also submitted to the lab for validation of analytical results. The blank samples were submitted for the same EPA 8260B analysis as the 19 groundwater samples. All sample bottles were properly sealed and labeled in the field. Each sample set was then stored with ice and a temperature blank in insulated containers ("coolers") provided by the laboratory. Completed chain of custody forms accompanied all samples.

To prevent cross-contamination, dedicated disposable Teflon tubing was used to collect all samples. EIC's oil/water interface probe was field decontaminated prior to use and between sample locations by washing in an Alconox detergent solution and rinsing with lab-supplied de-ionized water. After each sample was collected, the Horiba water quality parameters instrument with flow-through cell was decontaminated by pumping 1,500 to 2,000 mL of laboratory-supplied de-ionized (DI) water through it with the peristaltic pump. As needed, the instrument was also cleaned by periodically disassembling and cleaning the flow-through cell by spraying it and the parameter sensors with pressurized DI water and wiping with Q-tips and paper wipes.

## 5.0 DATA EVALUATION

EIC conducted an evaluation of the data compiled from field data and laboratory analysis to determine the current groundwater potentiometric surface and the horizontal extent of the prevailing contaminant plume. Since this sampling event included data from new wells and repaired

wells installed since the last two previous sampling events (for CVOCs only in April 2010 and for VOCs/CVOCs on Sept 2009) the analytical data serves as a baseline for further evaluation.

## 5.1 GROUNDWATER POTENTIOMETRIC MAP

From gauging data summarized in Table 3, EIC prepared a groundwater potentiometric surface map (Figure 2). From this figure it clear that the primary feature in the potentiometric surface is a trough that (beginning in the vicinity of the office) slopes downward towards the east then (beginning in the vicinity of Tank 24 in Tank Farm #2) turns toward the north, extending past Tank 35 also in Tank Farm #2. As such, groundwater would be expected to flow along this topographical trough towards the north. In the previous potentiometric map prepared from the September 2009 gauging data (EIC, 2011a), the potentiometric surface does not have this trough feature but, rather, has a uniform east to northeast downward slope.

## 5.2 HORIZONTAL EXTENT OF CONTAMINANT PLUMES

The analytical data from the groundwater sampling program and the historic analytical data are tabulated in Table 4. Figure 3 illustrates the COC results for each sampled well. All parameters that exceeded the revised Type 4 risk reduction standards are marked in red.

### 5.2.1 CVOC Plume

Figures 4 through 7 illustrate the horizontal extent of the current CVOC contaminant plume comprised of PCE, TCE, 1,2-dicholorbenzene, and vinyl chloride, respectively. In preparing these plume maps, EIC utilized the same contour intervals as those illustrated in the CAP and in previous ERM annual reports, and in the revised VRP submittal. This allows for a comparative evaluation of the plume maps over time. Also, the limits of the RRS concentrations and the delineation criterion are illustrated to evaluate the extent of dissolved CVOCs that require remediation.

<u>PCE Plume</u>

Referring to Figure 4, the highest concentrations of PCE occurred in MW-33, followed sequentially by PAN-MW-9, MW-29, and then by LAW-PZ-8R. As such, the horizontal distribution of the peak CVOC plume trends south to north from the area of LAW-PZ-8R to MW-33 and then to PAN-MW-9 and MW-29. This appears to indicate that the plume is aligned along the same direction as groundwater flow indicated on the groundwater potentiometric map (Figure 2). As such, the shape and position of the peak plume is relatively consistent with that depicted in the September 2009 PCE contour map. However, the PCE concentration of 5,200 µg/L at MW-33 (a new well drilled in the vicinity of MW-22R,) is higher than the 3,000 µg/L reported for MW-22R in September 2009. The concentration may be higher due to MW-33 being located closer to the peak plume than the former MW-22.

From Figure 4, the peak thickness of the PCE plume is entirely within Tank Farm #2. PCE concentrations are above RRS but at significantly lower concentrations than those within the peak plume in three wells - MW-15 (deep), MW-24R, and MW-32. This indicates that the RRS of the PCE plume extends down-gradient approximately 440 feet towards the north-northeast yet also 140 feet up-gradient towards the south-southwest from the original release location at Tank 24. Since the CVOC concentrations in MW-16, MW-17R, MW-30, and MW-34 (east of the CVOC plume) and wells MW-18R, MW-19, MW-23, MW-25, MW-27, and MW-31, (west of the CVOC plume) are below RRS, the PCE plume does not appear to be migrating east or west beyond the vicinity of Tank Farm #2.

CVOC Degradation Products

Other CVOCs resulting as degradation products of PCE, have been historically identified at the site. In reviewing Figures 4 through 7, EIC made the following observations:

1. It is apparent that the TCE plume has a similar footprint as PCE.
2. Although the 1,2 – DCE plume lies in the same location as PCE, the footprint is somewhat larger and extents farther towards the north than the PCE plume. A much smaller isolated plume of 1,2 – DCE is located in the area of MW-16. As the groundwater flow direction in the area of MW-16 is primarily towards the north and this smaller plume is side-gradient of the larger plume, EIC is uncertain as to the source of this smaller plume.
3. Low concentrations of vinyl chloride (VC) are present within the PCE footprint and the VC plume extends well beyond the PCE footprint, forming the largest of the four CVOC plumes mapped. The VC plume extends the farthest to the northwest of the four CVOCs, extending beyond MW-27. A much smaller isolated plume of VC is located in the area of MW-16.

All these observations are indicative of potential biotransformation in progress. Considering that the current sampling event serves as a baseline, data from future sampling event will be utilized to evaluate the overall bioremediation potential at the site.

### 5.2.2 VOC Plume

Figures 8 through 11 illustrate the horizontal extent of the current VOC contaminant plume comprised of benzene, toluene, ethylbenzene, and total xylenes, respectively. In preparing these plume maps, EIC utilized the same contour intervals as those illustrated in the CVOC maps. This allows for a relative comparison of the plume maps between VOC and CVOC limits. Also, the limits of the RRS concentrations and the delineation criterion are illustrated to evaluate the extent of dissolved VOCs that require remediation.

Referring to Table 4, in general, the highest concentrations of VOCs occurred in LAW-PZ-8R, followed by PAN-MW-9, and then MW-29. Also, benzene concentrations were above RRS at MW-15 (deep) and MW-24R. In reviewing Figures 8 through 11, EIC made the following observations:

1. The peak concentration of the benzene plume lies in the vicinity of LAW-PZ-8R and extends towards the northeast. The plume footprint above Type 4 RRS and delineation

criteria for benzene generally lies just within or immediately south of Tank Farm #2 and within the footprint of the PCE plume.

2. The peak of the toluene plume lies in the vicinity of LAW-PZ-8R. The plume does not exceed the Type 4 RRS, however, the plume footprint above delineation criteria for toluene is restricted to the near vicinity of LAW-PZ-8R.
3. The ethylbenzene plume has two peaks with the primary one located at well LAW-PZ-8R and a secondary one in the vicinity of wells PAN-MW-9 and MW-29. As there are two plume peaks, there are two separate footprints above Type 4 RRS and delineation criteria (both 700 µg/L) for ethylbenzene with each of these footprints lying in the vicinity of Tank Farm #2 with the southern footprint immediately south of Tank Form 2.
4. The peak of the total xylenes plume lies in the vicinity of LAW-PZ-8R and extends towards the northeast. The plume footprint above Type 4 RRS and delineation criteria for total xylenes (both 10,000 µg/L) generally is restricted to the near vicinity of LAW-PZ-8R to the south, east, and west and extending approximately 80 feet to the northeast of LAW-PZ-8R.

With the exception of the ethylbenzene plume, all four VOC COC plumes, have a single peak at LAW-PZ-8R that extends towards the northeast. All four plumes are within the vicinity of Tank Farm #2.

## 5.3 VERTICAL EXTENT OF CONTAMINANT PLUMES

There are two deep wells, namely MW-14 and MW-15, reported in historical documents. Since MW-14 could not be located, MW-15 is the only deep well that was available for sampling. According to historical well construction tables, this well has a screened interval of from 46.7 to 56.7 feet below ground surface (BGS). EIC, however, was unable to obtain a well construction diagram of this well to confirm its validity in utilizing this well to monitor vertical migration of COCs.

From Figure 3, in MW-15, concentrations were above RRS for each of the four CVOCs and concentrations of the VOC benzene was above RRS. Referring to Table 4, all eight COC concentrations were greater than any of those historically reported for this well. As COCs could possibly have migrated vertically through the annulus space of MW-15, causing increased concentrations of these constituents, EIC will continue its attempt to locate the well construction details for MW-15.

During the sampling event, EIC encountered LNAPL floating in MW-15 that appeared to be partially degraded vegetable oil. EIC suspects that the material may be soybean oil that was mistakenly injected into this well during the injection program. Further investigation, however, is necessary to determine the source and composition of this LNAPL.

## 5.4 PLUME STABILITY

### 5.4.1 CVOC Plume

As discussed in Section 5.2.1, a substantial portion of the CVOC plume has remained stationary within Tank Farm #2. However, as concentrations of CVOCs above RRS in the larger plume occur in well MW-32 which, as indicated by Figure 2, is down-gradient of the plume, some degree of migration appears to be occurring towards the north. This contamination, however, apparently didn't reach MW-17R, that lies further north. The isolated small 1,2-DCE and VC plumes in the area of MW-16 may be remnants from the larger plume that has receded from this area. From Table 4-1 (EIC, 2011a), the former MW-20 (which lies in the vicinity of MW-32) had not been sampled since August, 2003, when all COCs from this well were below MDL, however levels of three CVOC COCs (PCE, 1,2-DCE, VC) were above RRS in MW-32 from the current sampling event.

As discussed in Section 5.3, the CVOC vertical extent is inconclusive and will be evaluated further. From EIC's evaluation of both the horizontal and vertical extents of the CVOCs, EIC is uncertain whether the plume will migrate farther northward.

### 5.4.2 VOC Plume

As discussed in Section 5.2.2, the VOC plume in general appears to be primarily situated within or immediately south of Tank Farm #2 and is stable and not apparently actively migrating horizontally with the ethylbenzene and total xylenes. Ethylbenzene and total xylenes COCs at MW-29 at the interior of the plume have increased significantly since the previous VOC sampling event of September 2009. Referring to Table 4, for MW-15 (deep), all four BTEX COCs had the highest historical concentrations yet recorded during the current sampling event. EIC is uncertain as to why the BTEX concentrations have increased to this extent. Further evaluation of the vertical extent of COCs is necessary. As the VOC plume lies entirely within or immediately south of Tank Farm #2, it does not appear to impact the Savannah River. Also, since the VOC plume lies north of MW-18R and MW-34, it appears to neither impact neither the GPA nor GAF properties to the south.

# 6.0 CONCLUSIONS

From the baseline horizontal and vertical plume analysis, the CVOC plume appears to be relatively stable. However, there appears to be horizontal migration of the plume towards the north and onto GPA property near the Savannah River to a limited extent.. Further analysis of the vertical extents of COVs is required to determine if vertical migration has occurred or occurred due to MW-15 well construction. A portion of the CVOC plume extends into GPA property to the north and GAF property to the south.

## 7.0 REFERENCES

Environmental International Corporation, 2011a. *Revised VRP Application.* Savannah, Georgia, April 2011.

Environmental International Corporation, 2011b. *Report on the Installation of Five New Groundwater Monitoring Wells, Rehabilitating Seven Damaged Monitoring Wells, and Related Tasks for the Voluntary Remediation Program, VOPAK Terminal Savannah, Savannah, Georgia.* Savannah, Georgia, May 2011.

Environmental International Corporation, 2011c. *2011 Well Survey Report, VOPAK Terminal Savannah, Savannah, Georgia.* Savannah, Georgia, August 2011.

Environmental Resources Management, 2005. *Revision 4 Corrective Action Plan, Hazardous Site Inventory Number 10464*. Savannah, Georgia, February 2005.

Environmental Resources Management, 2010. *Vopak Third Annual Report on Corrective Action.* Savannah, Georgia, January 2010.

WPC, 2010. *Report of Groundwater Sampling.* Savannah, Georgia, May 2010.

We appreciate the opportunity to have served you on your project needs. If you have any questions, please call or e-mail me.

Sincerely,
ENVIRONMENTAL INTERNATIONAL CORPORATION

*(Electronically Submitted)*

Alan Sanders, P.G.
Manager
Cc: Raj Mahadevaiah, EIC
Corey Jones, EIC

# TABLES

# Table 1: Groundwater Quality Field Parameters for October 2011 Monitoring Event

| Well ID | GroundWater Quality Field Parameters | | | | | | |
|---|---|---|---|---|---|---|---|
| | Temp (°C) | Conductivity (mS/cm) | pH | Dissolved Oxygen (mg/l) | Turbidity (NTU) | ORP (mV) | Volume Purged (mL) |
| LAW-PZ-8R | 26.05 | 0.930 | 5.51 | 0.00 | 368.0 | 94 | 6,100 |
| PAN-MW-9 | 23.79 | 0.497 | 5.40 | 0.79 | 166.0 | 99 | 4,200 |
| PAN-MW-10 | 24.89 | 0.530 | 6.32 | 0.00 | 0.0 | 183 | 2,400 |
| MW-15 | 29.24 | 1.490 | 4.43 | 0.00 | 24.5 | 201 | 5,140 |
| MW-16 | 22.08 | 0.397 | 4.91 | 0.00 | 50.1 | 182 | 3,560 |
| MW-17R | 23.97 | 0.514 | 6.10 | 3.69 | 0.0 | 83 | 1,800 |
| MW-18R | 26.72 | 0.305 | 4.69 | 0.00 | 0.0 | 368 | 4,300 |
| MW-19 | 24.54 | 0.824 | 6.30 | 1.14 | 32.5 | 192 | 3,940 |
| MW-23 | 23.08 | 1.200 | 6.67 | 0.00 | 10.0 | 159 | 3,420 |
| MW-24R | 23.68 | 0.534 | 4.51 | 0.00 | 50.0 | 237 | 2,440 |
| MW-25 | 25.37 | 0.699 | 6.29 | 0.00 | 15.2 | 41 | 4,800 |
| MW-26R | 27.49 | 0.391 | 5.83 | 0.00 | 0.0 | 86 | 4,500 |
| MW-27 | 25.44 | 0.639 | 6.42 | 3.39 | 59.2 | 176 | 6,220 |
| MW-29 | 24.45 | 1.460 | 4.56 | 0.00 | 76.4 | 163 | 1,780 |
| MW-30 | 25.58 | 0.192 | 4.98 | 0.00 | 0.1 | 141 | 3,100 |
| MW-31 | 23.18 | 1.340 | 6.69 | 5.10 | 0.0 | 148 | 4,080 |
| MW-32 | 26.20 | 1.080 | 5.30 | 0.32 | 2.0 | 127 | 1,300 |
| MW-33 | 23.80 | 0.559 | 5.40 | 0.00 | 43.2 | 112 | 2,640 |
| MW-34 | 25.72 | 0.208 | 4.50 | 0.43 | 0.0 | 385 | 4,980 |

NOTES:

All parameter measurements were taken after parameters had stabilized and prior to sample collection

Field parameters were recorded from 10/25/2011 TO 10/27/2011

Parameters (other than volume) were measured with a Horiba U-52-2 Instrument with Flow-Through Cell

Volume was measured with a 2,000 mL graduated cylinder

# Table 2: Well Purging Data

| Well ID | Date of Purge | Purge Time (min) | Purge Volume (mL) | Average Purge Rate (mL/min) | Hose Intake Location in Well below TOC (ft) |
|---|---|---|---|---|---|
| LAW-PZ-8R | 10/26/2011 | 20 | 6,100 | 305.00 | 10.00 |
| PAN-MW-9 | 10/26/2011 | 20 | 4,200 | 210.00 | 8.50 |
| PAN-MW-10 | 10/26/2011 | 15 | 2,400 | 160.00 | 12.50 |
| MW-15 | 10/26/2011 | 25 | 5,140 | 205.60 | 9.00 |
| MW-16 | 10/26/2011 | 25 | 3,560 | 142.40 | 13.50 |
| MW-17R | 10/25/2011 | 15 | 1,800 | 120.00 | 16.00 |
| MW-18R | 10/26/2011 | 15 | 4,300 | 286.67 | 10.00 |
| MW-19 | 10/27/2011 | 15 | 3,940 | 262.67 | 10.00 |
| MW-23 | 10/27/2011 | 15 | 3,420 | 228.00 | 7.00 |
| MW-24R | 10/26/2011 | 15 | 2,440 | 162.67 | 10.00 |
| MW-25 | 10/27/2011 | 15 | 4,800 | 320.00 | 10.00 |
| MW-26R | 10/26/2011 | 20 | 4,500 | 225.00 | 5.50 |
| MW-27 | 10/27/2011 | 30 | 6,220 | 207.33 | 8.00 |
| MW-29 | 10/26/2011 | 15 | 1,780 | 118.67 | 10.00 |
| MW-30 | 10/26/2011 | 15 | 3,100 | 206.67 | 7.00 |
| MW-31 | 10/27/2011 | 20 | 4,080 | 204.00 | 7.50 |
| MW-32 | 10/25/2011 | 10 | 1,300 | 130.00 | 8.50 |
| MW-33 | 10/26/2011 | 10 | 2,640 | 264.00 | 7.00 |
| MW-34 | 10/25/2011 | 25 | 4,980 | 199.20 | 5.50 |

# Table 3: October 2011 Well Gauging Data, VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # | TOC Elevation* | DTP | DTW | Groundwater Surface Elevation | Notes |
|---|---|---|---|---|---|
| (Well Diameter, in.) | ft. | ft. | ft. | ft. | |
| LAW-PZ-8R (1) | 14.02 | ND | 6.27 | 7.75 | |
| PAN-MW-9 (2) | 12.59 | ND | 6.35 | 6.24 | Well was repaired by EIC on April 6, 2011 |
| PAN-MW-10 (2) | 13.81 | ND | 10.36 | 3.45 | |
| MW-15 (1) | 10.07 | ND | 2.92 | 7.15 | Apparent vegatable oil found floating on water table. This is possibly that of the sodium, ethyl lactate, soybean oil, pH buffer solution previously periodically injected into injection wells but apparently mistakenly injected into this monitoring well. |
| MW-16 (1) | 17.01 | ND | 11.34 | 5.67 | Well was repaired by EIC on April 6, 2011 |
| MW-17R (2) | 15.89 | ND | 11.96 | 3.93 | |
| MW-18R (1) | 14.12 | ND | 6.47 | 7.65 | Well was repaired by EIC on April 6, 2011 |
| MW-19 (1) | 14.91 | ND | 6.80 | 8.11 | Well was repaired by EIC on April 6, 2011 |
| MW-23 (1) | 10.39 | ND | 4.00 | 6.39 | |
| MW-24R (2) | 11.81 | ND | 5.95 | 5.86 | |
| MW-25 (1) | 14.76 | ND | 6.85 | 7.91 | Well was repaired by EIC on April 6, 2011 |
| MW-26R (1) | 10.61 | ND | 3.22 | 7.39 | |
| MW-27 (1) | 9.93 | ND | 4.87 | 5.06 | |
| MW-29 (0.75) | 11.73 | ND | 6.02 | 5.71 | |
| MW-30 (2) | 11.23 | ND | 4.95 | 6.28 | Well installed by EIC on April 6, 2011 |
| MW-31 (2) | 9.67 | ND | 5.26 | 4.41 | Well installed by EIC on April 28, 2011 |
| MW-32 (2) | 11.70 | ND | 6.47 | 5.23 | Well installed by EIC on April 25, 2011 |
| MW-33 (2) | 11.61 | ND | 5.07 | 6.54 | Well installed by EIC on April 28, 2011 |
| MW-34 (2) | 10.81 | ND | 3.41 | 7.40 | Well installed by EIC on April 26, 2011 |

NOTES:

TOC = Top of Casing

DTP = Depth to Product below TOC

DTW = Depth to Water below TOC

ND = Not Detected

* TOC elevations are from well survey conducted by EMC Engineering on June 30, 2011 and is of the NAVD 29 Datum convention

*Table 4*
*Vopak*
*Savannah, Ga.*
*Chemical Concentrations of Volatile Organic Compounds (CVOCs and VOCs) in Ground Water Samples (Modified from ERM, 2010)*

1/20/2012

| | Units | Method | Type 3 or 4 RRS | LAW-PZ-8/LAW-PZ-8R | PAN-MW-9 | PAN-MW-10 | MW-14 | MW-15 | MW-16 | MW-17/MW-17R | MW-18/MW-18R | MW-19 | MW-20*[1] | MW-21*[2] | MW-22/MW-22R*[3] | MW-23 | MW-24/MW-24R | MW-25 | MW-26/MW-26R | MW-27 | MW-28*[4] | MW-29 | MW-30*[2] | MW-31 | MW-32*[1] | MW-33 | MW-34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene (PCE)** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/L | 624 | 5 | NS | **14,000** | **37** | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/L | 600 | | NS | **9,200** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/L | 8260 | | NR | **3,040** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/L | 8260 | | **50/500** | **8,100** | **10** | **33** | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/L | 8021 | | < 1000 | **7,400** | < 1 | < 1 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/L | 8260 | | NS | NS | < 5 | < 5 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/L | 8260 | | NS | **9,100** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | | < 250 | **8,000** | < 1 | < 1 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | | < 1200 | **9,800** | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | **8,700** | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | **400** | < 5 | **2,400** | < 5 | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | | NS | **2,400** | < 5 | < 5 | **5.3** | < 5 | < 5 | NS | < 5 | < 5 | NS | **1,000** | < 5 | **97** | NS | **300** | < 5 | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | | **70 J** | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | **120** | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | | NS | **6,900** | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | **7,600** | **760** | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | | NS | **3,200** | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | **7,000** | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | | NS | **6,000** | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | **7,200** | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | | NS | **1,100** | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | **5,700** | NS | NS | NS | **120** | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | | NS | **80** | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | **2,400** | NS | NS | NS | **420** | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | | NS | **1,600** | NS | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | **12** | **680** | NS | **1,300** | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | | **300** | **1,500** | NS | < 2 | < 2 | < 2 | < 5 | < 5 | NS | NS | < 2 | **2,600** | NS | **580** | NS | < 2 | NS | NS | **1,500** | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | | **240** | **1,900** | NS | < 2 | **12** | < 2 | < 2 | < 2 | NS | NS | < 2 | **3,200** | NS | **1,110** | NS | **6** | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | | < 250 | **600** | NS | <5 | <5 | **9** | < 5 | < 5 | NS | NS | < 5 | **3,400** | NS | **130** | | 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | | **240** | **1,500** | < 2 | < 2 | < 3 | < 2 | < 2 | < 2 | < 2 | NS | < 2 | NS | < 2 | **62** | < 2 | 2 | 3 | NS | **2,300** | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | | **380** | **510** | NS | < 2 | NS | < 2 | < 2 | < 2 | NS | NS | NS | **6,900** | NS | **130** | NS | **5** | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | | **570** | **540** | NS | <5 | NS | < 5 | < 5 | < 5 | NS | NS | NS | **4,400** | NS | **110** | NS | 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | | **510** | **460** | < 5 | <5 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | **1,900** | < 2 | **93** | < 5 | < 5 | < 5 | NS | **1,100** | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | | **99** | **440** | NS | < 2 | NS | < 2 | < 2 | < 2 | NS | NS | NS | **3,000** | NS | **57** | NS | < 2. | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Apr-10 | ug/L | 8260 | | **240** | **710** | < 5 | NS | <5 | <5 | NS | < 5 | < 5 | NS | NS | NS | < 5 | **35** | < 5 | < 5 | < 5 | NS | **500** | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | | **150** | **350** | 0.79 J | NS | **55** | 0.57 J | < 1 | < 1 | < 1 | NL | NL | NU | < 1 | **12** | < 1 | < 1 | 0.86 J | NL | **180** | 0.51 J | < 1 | **7.2 J** | **5,200** | 2.2 |
| **Trichloroethene (TCE)** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/L | 624 | 5 | NS | **350** | < 5 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/L | 600 | | NS | **430** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/L | 8260 | | NR | < 2500 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/L | 8260 | | NR | NR | NR | NR | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/L | 8021 | | NR | NR | NR | NR | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/L | 8260 | | NS | NS | < 5 | < 5 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/L | 8260 | | NS | < 1000 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | | < 250 | **360** | < 1 | < 1 | NS | < 1 | < 1 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | | < 1200 | **260J** | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | **900** | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | **95** | < 5 | **100** | < 5 | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | | NS | < 500 | < 5 | < 5 | **14** | < 5 | < 5 | NS | < 5 | < 5 | NS | **480** | < 5 | **51** | NS | **14** | < 5 | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | | **18 J** | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | 1.8 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | | NS | **440** | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | **700** | **2300** | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | | NS | **270** | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | **71** | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | | NS | **360** | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | < 250 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | | NS | **320** | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | **220** | NS | NS | NS | **8** | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | | NS | **9** | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | **47** | NS | NS | NS | **22** | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | | NS | **480** | NS | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | **71** | NS | **180** | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | | < 100 | **300** | NS | < 2 | < 2 | **12** | < 5 | < 5 | NS | NS | < 5 | < 130 | NS | **150** | NS | 2 | NS | NS | **340** | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | | **72** | **640** | NS | < 2 | **12** | **24** | < 2 | < 2 | NS | NS | < 2 | **60** | NS | **680** | NS | 4 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | | < 250 | **370** | NS | < 5 | < 5 | **71** | < 5 | < 5 | NS | NS | < 5 | < 130 | NS | **200** | NS | < 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | | < 100 | **450** | < 2 | < 2 | 4 | < 2 | < 2 | < 2 | < 2 | NS | < 2 | NS | < 2 | **37** | < 2 | < 2 | 2 | NS | **320** | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | | **34** | **190** | NS | < 2 | NS | < 2 | < 2 | < 2 | NS | NS | NS | **89** | NS | **24** | NS | < 2 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | | **52** | **150** | NS | < 5 | NS | < 5 | < 5 | < 5 | NS | NS | NS | **100** | NS | **25** | NS | < 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | | < 250 | **150** | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | **88** | < 2 | **22** | < 2 | < 5 | < 5 | NS | **320** | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | | **34** | **150** | NS | < 2 | NS | 4.1 | < 2 | < 2 | NS | NS | NS | **88** | NS | **20** | NS | < 2 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Apr-10 | ug/L | 8260 | | **49** | **140** | < 5 | NS | < 5 | < 5 | NS | < 5 | < 5 | NS | NS | NS | < 5 | **10** | < 5 | < 5 | < 5 | NS | **300** | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | | 28 J | **1,100** | 2.6 | NS | **58** | 0.66 J | < 1 | < 1 | < 1 | NL | NL | NU | < 1 | 5.8 | < 1 | 0.89 J | 1.6 J | NL | **72** | 0.55 J | < 1 | 11 | **3,200** | 1.7 |

*Table 4*
*Vopak*
*Savannah, Ga.*
*Chemical Concentrations of Volatile Organic Compounds (CVOCs and VOCs) in Ground Water Samples (Modified from ERM, 2010)*



| | Units | Method | Type 3 or 4 RRS | LAW-PZ-8/LAW-PZ-8R | PAN-MW-9 | PAN-MW-10 | MW-14 | MW-15 | MW-16 | MW-17/MW-17R | MW-18/MW-18R | MW-19 | MW-20*[1] | MW-21*[2] | MW-22/MW-22R*[3] | MW-23 | MW-24/MW-24R | MW-25 | MW-26/MW-26R | MW-27 | MW-28*[4] | MW-29 | MW-30*[2] | MW-31 | MW-32*[1] | MW-33 | MW-34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **cis-1,2-Dichloroethene** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/L | 624 | 1,020 | NS | < 5 | < 5 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/L | 600 | | NS | < 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/L | 8260 | | NR | < 2,500 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/L | 8260 | | NR | NR | NR | NR | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/L | 8021 | | NR | NR | NR | NR | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/L | 8260 | | NS | NS | < 2 | < 2 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/L | 8260 | | NS | < 400 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | | **1,800** | 130 | < 1 | < 1 | NS | 110 | < 1 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | | **3,900** | 100J | < 5 | < 5 | < 5 | 41 | < 5 | < 5 | < 5 | < 5 | < 5 | **3,100** | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 240 | < 5 | **1,100** | < 5 | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | | NS | < 500 | < 5 | < 5 | < 5 | 33 | < 5 | NS | < 5 | < 5 | NS | 930 | < 5 | 100 | NS | 180 | < 5 | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | | 350 | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | < 1 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | | NS | 300 | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | **2,300** | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | | NS | 170 | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | 310 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | | NS | < 250 | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | 610 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | | NS | 220 | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | 840 | NS | NS | NS | 120 | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | | NS | 5 | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | 240 | NS | NS | NS | 210 | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | | NS | 550 | NS | < 5 | < 5 | 36 | < 5 | < 5 | NS | NS | < 5 | **3,300** | NS | 500 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | | **31,000** | 990 | NS | < 2 | < 2 | 120 | < 5 | < 5 | NS | NS | < 2 | 490 | NS | 590 | NS | **2,800** | NS | NS | **1,500** | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | | **12,000** | 600 | NS | < 2 | 4 | 120 | < 2 | < 2 | NS | NS | < 2 | 480 | NS | 990 | NS | **5,100** | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | | **16,000** | 680 | NS | < 5 | < 5 | 320 | < 5 | < 5 | NS | NS | < 5 | 730 | NS | 770 | NS | **2,600** | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | | **18,000** | 880 | < 2 | < 2 | 3 | 260 | < 2 | < 2 | < 2 | NS | < 2 | NS | < 2 | 820 | < 2 | 240 | 350 | NS | **1,700** | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | | **6,900** | 590 | NS | < 2 | NS | 61 | < 2 | < 2 | NS | NS | NS | 930 | NS | 82 | NS | 410 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | | **4,600** | 500 | NS | < 5 | NS | 60 | < 5 | < 5 | NS | NS | NS | **2,100** | NS | 340 | NS | 14 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | | < 250 | 780 | < 5 | < 5 | < 5 | 78 | < 5 | < 5 | < 5 | NS | NS | **1,700** | < 5 | 240 | < 5 | 200 | 40 | NS | **2,100** | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | | **4,500** | 730 | NS | < 2 | NS | 78 | < 2 | < 2 | NS | NS | NS | **1,000** | NS | 120 | NS | 150 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Apr-10 | ug/L | 8260 | | **5,100** | 530 | < 5 | NS | < 5 | 89 | NS | < 5 | < 5 | NS | NS | NS | < 5 | 150 | < 5 | 93 | < 5 | NS | **3,200** | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | | **22,000** | 780 | 1.3 | NS | **4,400** | 160 | 0.20 J | < 1 | < 1 | NL | NL | NU | < 1 | 180 | < 1 | 43 | 8.3 | NL | **2,300** | 13 | < 1 | **1,500** | **16,000** | 44 |
| **Vinyl Chloride** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/L | 624 | 2 | NS | < 30 | < 30 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/L | 600 | | NS | < 30 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/L | 8260 | | NR | < 2500 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/L | 8260 | | **350/< 500** | < 500 | < 5 | < 5 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/L | 8021 | | < 1,000. | < 250 | < 1 | < 1 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/L | 8260 | | NS | NS | < 2 | < 2 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/L | 8260 | | NS | < 400 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | | **890** | < 100 | < 1 | < 1 | NS | **2.2** | < 1 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | | **670** | < 200 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | **380** | < 2 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | **50** | < 10 | **210** | < 2 | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | | NS | < 200 | < 2 | < 2 | NS | < 2 | < 2 | NS | < 2 | < 2 | NS | < 100 | < 2 | **22** | NS | **38** | < 2 | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | | **120** | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | < 1 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | | NS | **35** | NS | NS | NS | NS | < 2 | < 2 | NS | NS | NS | **210** | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | | NS | **14** | NS | NS | NS | NS | < 2 | < 2 | NS | NS | NS | **36** | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | | NS | < 100 | NS | NS | NS | NS | < 2 | < 2 | NS | NS | NS | < 100 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | | NS | < 100 | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | < 100 | NS | NS | NS | **28** | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | | NS | < 2 | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | **37** | NS | NS | NS | **47** | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | | NS | < 40 | NS | < 2 | < 2 | < 2 | < 2 | < 2 | NS | NS | < 2 | **140** | NS | **49** | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | | **1,700** | < 40 | NS | < 2 | < 2 | **4** | < 2 | < 2 | NS | NS | < 2 | **89** | NS | **33** | NS | **330** | NS | NS | **24** | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | | **630** | **23** | NS | < 2 | < 2 | **8** | < 2 | < 2 | NS | NS | < 2 | **100** | NS | **68** | NS | **560** | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | | **1,200** | < 40 | NS | < 2 | < 2 | **25** | < 2 | < 2 | NS | NS | < 2 | **100** | NS | **17** | NS | **580** | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | | **1,200** | < 40 | < 2 | < 2 | < 2 | **63** | < 2 | < 2 | < 2 | NS | < 2 | NS | < 2 | **20** | < 2 | **240** | **5** | NS | **64** | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | | **660** | **18** | NS | < 2 | NS | **53** | < 2 | < 2 | NS | NS | NS | **270** | NS | **9** | NS | **83** | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | | **360** | **25** | NS | < 2 | NS | **49** | < 2 | < 2 | NS | NS | NS | **300** | NS | **12** | NS | **19** | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | | **560** | < 40 | < 2 | < 2 | < 2 | **82** | < 2 | < 2 | < 2 | NS | NS | **280** | < 2 | **18** | < 5 | **76** | **22** | NS | **74** | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | | **470** | **49** | NS | < 2 | NS | **69** | < 2 | < 2 | NS | NS | NS | **220** | NS | **47** | NS | **62** | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Apr-10 | ug/L | 8260 | | **480** | **93** | < 2 | NS | **17** | **83** | NS | < 2 | < 2 | NS | NS | NS | < 2 | < 2 | < 2 | **48** | **92** | NS | **150** | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | | **1,500** | **62** | < 1 | NS | **220** | **77** | < 1 | < 1 | < 1 | NL | NL | NU | < 1 | **25** | < 1 | **34** | **200** | NL | **220** | 2.9 | < 1 | **35** | **840** | **8.8** |

***Table 4***
***Vopak***
***Savannah, Ga.***
***Chemical Concentrations of Volatile Organic Compounds (CVOCs and VOCs) in Ground Water Samples (Modified from ERM, 2010)***

| | Units | Method | Type 3 or 4 RRS | LAW-PZ-8/LAW-PZ-8R | PAN-MW-9 | PAN-MW-10 | MW-14 | MW-15 | MW-16 | MW-17/MW-17R | MW-18/MW-18R | MW-19 | MW-20*[1] | MW-21*[2] | MW-22/MW-22R*[3] | MW-23 | MW-24/MW-24R | MW-25 | MW-26/MW-26R | MW-27 | MW-28*[4] | MW-29 | MW-30*[2] | MW-31 | MW-32*[1] | MW-33 | MW-34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Benzene** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/L | 8260 | 15 | < 1000 | < 250 | < 1 | < 1 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | | < 250 | < 100 | < 1 | < 1 | NS | < 1 | < 1 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | | **69J** | < 500 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 500 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 12 | < 5 | < 100 | < 5 | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | | NS | < 500 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | NS | < 250 | < 5 | **52** | NS | NS | < 5 | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | | **42 J** | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | < 1 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | | NS | < 50 | NS | NS | NS | NS | < 10 | < 10 | NS | NS | NS | < 10 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | | NS | < 10 | NS | NS | NS | NS | < 10 | < 10 | NS | NS | NS | < 10 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | | NS | < 500 | NS | NS | NS | NS | < 10 | < 10 | NS | NS | NS | < 500 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | | NS | < 100 | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | < 100 | NS | NS | NS | **17** | NS | NS | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | | NS | < 5 | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | **35** | NS | NS | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | | NS | < 200 | NS | < 10 | < 10 | < 10 | < 10 | < 10 | NS | NS | < 10 | < 250 | NS | 11. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | | < 190 | < 200 | NS | < 2 | < 2 | < 2 | < 10 | < 10 | NS | NS | < 2 | < 250 | NS | < 20 | NS | **16** | NS | NS | 2 | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | | **47** | < 2. | NS | < 2 | < 2 | < 2 | < 2 | < 2 | NS | NS | < 2 | < 2. | NS | 13. | NS | **20** | NS | NS | NS | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | | < 500 | < 200 | NS | < 10 | < 10 | < 10 | < 10 | < 10 | NS | NS | < 10. | < 250 | NS | < 14 | NS | **17** | NS | NS | NS | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | | **310** | < 40. | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | NS | < 2 | NS | < 2. | 12. | < 2 | 9 | < 2 | NS | 3 | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | | **450** | < 2. | NS | NS | NS | < 2 | < 2 | < 2 | NS | NS | NS | 2 | NS | **16** | NS | 12. | NS | NS | NS | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | | **290** | < 5. | NS | < 5 | NS | < 5 | < 5 | < 5 | NS | NS | NS | < 5 | NS | 15 | NS | < 5 | NS | NS | NS | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | | **320** | < 100. | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | < 5 | 12 | < 5 | 14 | < 5 | NS | < 5 | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | | **390** | < 10. | NS | < 2 | NS | < 2 | < 2 | < 2 | NS | NS | NS | 4.1 | NS | 10 | NS | 4.4 | NS | NS | NS | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | | **1,600** | < 50 | < 1 | NS | **36** | 0.52 J | 0.39 J | < 1 | < 1 | NL | NL | NU | < 1 | **10** | < 1 | 7.2 | 0.63 J | NL | < 20 | 0.55 J | < 1 | < 10 | < 200 | 1.6 |
| **Ethylbenzene** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/L | 8260 | 3,750 | **4,300** | 2,400 | < 1 | 2.9 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | | **5,100** | **3,900** | < 1 | < 1 | NS | < 1 | < 1 | NI | NI | NI | NI | IN | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | | **5,700** | 3,700 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | 600 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 12 | < 5 | < 100 | < 5 | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | | NS | 1,100 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | NS | < 250 | < 5 | < 10 | NS | NS | < 5 | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | | 3,700 | NS | NS | NS | NS | NS | NS | 2 | NS | NS | 4.2 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | | NS | 3,100 | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | 2,300 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | | NS | **8,400** | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | 14. | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | | NS | 2,200 | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | < 250 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | | NS | **6,000** | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | < 100 | NS | NS | NS | < 2 | NS | NS | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | | NS | 60 | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | < 5 | NS | NS | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | | NS | 730 | NS | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | 150 | NS | 5. | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | | **6,100** | 990 | NS | < 2 | < 2 | < 2 | < 5 | < 5 | NS | NS | < 2 | < 130 | NS | < 20 | NS | 380 | NS | NS | 67 | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | | 3,000 | 1,800 | NS | < 2 | < 2 | < 2 | 7 | < 2 | NS | NS | < 2 | 20 | NS | 10 | NS | 1,500 | NS | NS | NS | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | | **5,000** | **4,500** | NS | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | < 130 | NS | < 5 | NS | 1,100 | NS | NS | NS | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | | **4,400** | 1,900 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | NS | < 2 | NS | < 2 | 2 | < 2 | 71 | < 2 | NS | 63 | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | | **6,500** | **8,800** | NS | < 2 | NS | 6 | 4 | 2 | NS | NS | NS | 10 | NS | < 2 | NS | 260 | NS | NS | NS | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | | **4,900** | **3,900** | NS | < 5 | NS | < 5 | < 5 | < 5 | NS | NS | NS | 7 | NS | < 5 | NS | 23 | NS | NS | NS | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | | **3,800** | 2,400 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | 11 | < 5 | | < 5 | 310 | < 5 | NS | 35 | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | | **4,100** | 2,300 | NS | < 2 | NS | < 2 | < 2 | < 2 | NS | NS | NS | 9 | NS | < 2 | NS | 63 | NS | NS | NS | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | | **8,000** | **1,900** | 3.7 | NS | 38 | 0.30 J | 0.55 J | < 1 | < 1 | NL | NL | NU | < 1 | 1.4 J | 0.72 J | 35 | 0.29 J | NL | **1,300** | < 1 | < 1 | 31 | 370 | < 1 |

*Table 4*
*Vopak*
*Savannah, Ga.*
*Chemical Concentrations of Volatile Organic Compounds (CVOCs and VOCs) in Ground Water Samples (Modified from ERM, 2010)*

1/20/2012

| | Units | Method | Type 3 or 4 RRS | LAW-PZ-8/LAW-PZ-8R | PAN-MW-9 | PAN-MW-10 | MW-14 | MW-15 | MW-16 | MW-17/MW-17R | MW-18/MW-18R | MW-19 | MW-20*[1] | MW-21*[2] | MW-22/MW-22R*[3] | MW-23 | MW-24/MW-24R | MW-25 | MW-26/MW-26R | MW-27 | MW-28*[4] | MW-29 | MW-30*[2] | MW-31 | MW-32*[1] | MW-33 | MW-34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Toluene** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/L | 8260 | 2,030 | < 1000 | < 250 | < 1 | < 1 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | | < 250 | < 100 | < 1 | < 1 | NS | < 1 | < 1 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | | 220J | < 500 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 500 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 12 | < 5 | < 100 | < 5 | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | | NS | < 500 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | NS | < 250 | < 5 | < 10 | NS | NS | < 5 | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | | < 100 | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | < 1 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | | NS | < 25 | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | < 5 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | | NS | < 5 | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | < 5 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | | NS | < 250 | NS | NS | NS | NS | 5 | < 5 | NS | NS | NS | < 250 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | | NS | < 100 | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | < 100 | NS | NS | NS | < 2 | NS | NS | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | | NS | < 5 | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | < 5 | NS | NS | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | | NS | < 100 | NS | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | < 130 | NS | < 5 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | | 1,200 | < 100 | NS | < 2 | < 2 | < 2 | 8 | < 5 | NS | NS | < 2 | < 130 | NS | < 20 | NS | 45 | NS | NS | < 2 | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | | 410 | < 2 | NS | < 2 | < 2 | < 2 | < 2 | < 2 | NS | NS | < 2 | < 2 | NS | < 2 | NS | 83 | NS | NS | NS | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | | 760 | < 100 | NS | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | < 130 | NS | < 5 | NS | 45 | NS | NS | NS | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | | 720 | < 40 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | NS | < 2 | NS | < 2 | < 2 | < 2 | 4 | < 2 | NS | < 2 | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | | 330 | 3 | NS | < 2 | NS | < 2 | < 2 | < 2 | NS | NS | NS | < 2 | NS | < 2 | NS | 10 | NS | NS | NS | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | | 290 | < 5 | NS | < 5 | NS | < 5 | < 5 | < 5 | NS | NS | NS | < 5 | NS | < 5 | NS | 5 | NS | NS | NS | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | | 280 | < 100 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | < 5 | < 5 | < 5 | 21 | < 5 | NS | < 5 | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | | 260 | < 10 | NS | < 2 | NS | < 2 | < 2 | < 2 | NS | NS | NS | < 2 | NS | < 2 | NS | 3.8 | NS | NS | NS | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | | 1,100. | < 50 | < 1 | NL | 7.3 J | < 1 | < 1 | < 1 | < 1 | NL | NL | NU | < 1 | < 5 | < 1 | 1.4 | < 2 | NL | < 20 | < 1 | < 1 | < 10 | < 200 | < 1 |
| **Xylenes** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/L | 8260 | 10,000 | 5,600. | 5200 | < 1 | 1.4 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | | **59,000** | 8,600 | < 2 | < 2 | NS | < 2 | < 2 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | | **64,000** | 8,500 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | 83J | < 10 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 25 | < 10 | < 200 | < 10 | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 10 | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | | NS | 2,000 | < 10 | < 10 | < 10 | < 10 | < 10 | NS | NS | < 10 | NS | < 500 | < 10 | < 20 | NS | NS | < 10 | NS | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | | **42,000** | NS | NS | NS | NS | NS | NS | 22 | NS | NS | 38 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | | NS | 7,300 | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | < 50 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | | NS | **22,000** | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | < 22 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | | NS | 5,100 | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | < 250 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | | NS | **16,000** | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | < 250 | NS | NS | NS | < 5 | NS | NS | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | | NS | 150 | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | 10 | NS | NS | NS | 6. | NS | NS | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | | NS | 1,800 | NS | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | < 130 | NS | 28 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | | **84,000** | 2,600 | NS | < 5 | < 5 | < 7 | < 5 | < 5 | NS | NS | < 5 | < 130 | NS | < 50 | NS | 2,700 | NS | NS | 51 | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | | **41,000** | 4,900 | NS | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | 18. | NS | 35 | NS | **13,000** | NS | NS | NS | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | | **70,000** | **12,000** | NS | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | < 5 | < 130 | NS | 12 | NS | 6,900 | NS | NS | NS | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | | **54,000** | 5,400 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | NS | < 5 | 7 | < 5 | 250 | < 5 | NS | 57 | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | | **94,000** | **24,000** | NS | < 5 | NS | < 5 | 27 | 16 | NS | NS | NS | 26 | NS | 11 | NS | 1,300 | NS | NS | NS | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | | **55,000** | **11,000** | NS | < 5 | NS | < 5 | < 5 | < 5 | NS | NS | NS | 12 | NS | < 5 | NS | 120 | NS | NS | NS | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | | **48,000** | 6,300 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | 22 | < 5 | < 5 | < 5 | 2,700 | < 5 | NS | 98 | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | | **47,000** | 6,100 | NS | < 2 | NS | < 5 | < 5 | < 5 | NS | NS | NS | 12 | NS | < 5 | NS | 380 | NS | NS | NS | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | | **73,000** | 4,200 | 9.9 | NL | 93 | 1.9 J | < 2 | < 2 | < 2 | NL | NL | NU | < 2 | 4.2 J | 8.7 | 110 | 3.4 J | NL | 2,800 | < 2 | 0.24 J | 35 | 2,200 | < 2 |

Value exceeds a risk reduction standard
NR = not reported by the lab
NS = not sampled
NI = not installed
NU = not used
NL = not located
< = less than indicated value
< 5/< 500 = sample was analyzed twice
J this is an estimated value that is above the method detection limit but below the practical quantitation limit.
The sample denoted MW-10 on 12/18/98 is believed to have been collected from MW-9, I.e. the two samples were mislabeled. This table shows what is believed to be correct.
Risk reduction standard, the higher of the Type 3 or 4 from Table 2 of Risk Reduction Standards dated August 13, 2001
LAW-PZ-8 was found damaged during June 2006 sampling event and was not sampled.
Type 3 or 4 RRS from 2/1/1991 to 4/26/2010 from CAP
RRS beginning on 4/27/2011 from VRP Application
*1 MW-20 was not located (possibly paved over), MW-32 was installed as a replacement
*2 MW-21 was not located, MW-30 was installed as a replacement
*3 MW-22 was filled with silt above water level and could not be used, MW-33 was installed as a replacement
*4 MW-28 was not located, MW-34 was installed as a replacement

***Table 5***
***Ground Water Natural Attenuation Parameters (Modified from ERM, 2010)***
***Vopak***
***Savannah, GA***

| Wells | LAW-PZ-8 / LAW-PZ-8R | PAN MW-9 | PAN-MW-10 | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20*[1] | MW-21*[2] | MW-22/MW-22R*[3] | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27*[5] | MW-29 | MW-30*[2] | MW-31 | MW-32*[1] | MW-33*[3] | MW-34*[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | 5.64 | 6.29 | 7.54 | 8.18 | 5.57 | 3.71 | NS | 6.40 | 6.17 | NS | 4.98 | 6.88 | 4.87 | NS | 4.24 | 5.81 | NI | NI | NI | NI | NI | NI |
| Oct-03 | 5.66 | 4.43 | 6.42 | 6.60 | 6.97 | 5.27 | 3.99 | NS | 6.15 | 6.40 | 4.03 | 3.94 | 6.35 | 4.70 | 6.21 | 4.35 | 5.62 | NI | NI | NI | NI | NI | NI |
| Mar-04 | NS | 5.04 | NS | NS | NS | NS | 3.72 | 3.95 | NS | NS | NS | 4.09 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| May-05 | NS | 5.49 | NS | NS | NS | NS | NS | NS | NS | NS | 4.45 | 4.23 | NS | NS | NS | 4.09 | NS | NI | NI | NI | NI | NI | NI |
| Aug-05 | NS | 3.54 | NS | NS | NS | NS | NS | NS | NS | NS | 2.88 | 2.74 | NS | NS | NS | 2.60 | NS | NI | NI | NI | NI | NI | NI |
| Jun-06 | NS | 4.63 | NS | 7.48 | 7.63 | 5.60 | 4.93 | 4.05 | NS | NS | 4.87 | 4.35 | NS | 5.23 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Oct-06 | 4.80 | 5.11 | NS | 8.90 | 11.10 | 6.40 | 5.20 | 4.10 | NS | NS | 4.60 | 3.67 | NS | 5.20 | NS | 5.30 | NS | 5.80 | NI | NI | NI | NI | NI |
| Dec-06 | 5.38 | 4.52 | NS | 6.67 | 7.15 | 5.45 | 5.95 | 4.45 | NS | NS | 4.61 | 4.04 | NS | 4.58 | NS | 5.21 | NS | NS | NI | NI | NI | NI | NI |
| Mar-07 | 5.41 | 4.87 | NS | 7.09 | 7.39 | 5.47 | 5.91 | 4.34 | NS | NS | 4.75 | 4.01 | NS | 4.35 | NS | 5.65 | NS | NS | NI | NI | NI | NI | NI |
| Sep-07 | 4.92 | 4.87 | 6.65 | 7.44 | 7.20 | 5.52 | 6.08 | 4.33 | 6.12 | NS | 4.67 | NS | 6.63 | 4.47 | 6.17 | 5.68 | 6.17 | 4.49 | NI | NI | NI | NI | NI |
| May-08 | 4.62 | 3.39 | NS | 6.60 | NS | 5.27 | 5.61 | 4.27 | NS | NS | NS | 2.44 | NS | 3.74 | NS | 4.94 | NS | NS | NI | NI | NI | NI | NI |
| Dec-08 | 4.38 | 4.24 | NS | 7.38 | NS | 4.65 | 5.94 | 3.88 | NS | NS | NS | 4.82 | NS | 4.08 | NS | 5.84 | NS | NS | NI | NI | NI | NI | NI |
| Apr-09 | 4.26 | 3.49 | 5.48 | 6.94 | 6.53 | 5.29 | NS | 3.38 | 5.47 | NS | NS | 4.83 | 6.09 | 4.29 | 5.71 | 4.70 | 5.99 | 4.32 | NI | NI | NI | NI | NI |
| Sep-09 | 5.41 | 4.21 | NS | 6.55 | NS | 5.87 | 5.98 | 4.89 | NS | NS | NS | 5.16 | NS | 4.54 | NS | 5.95 | NS | NS | NI | NI | NI | NI | NI |
| Apr-10 | 5.50 | 5.17 | 6.13 | NS | 6.05 | 6.01 | 5.99 | 5.48 | 6.07 | NS | NS | NS | 6.46 | 5.37 | 6.19 | 5.99 | 6.34 | 5.21 | NI | NI | NI | NI | NI |
| Oct-11 | 5.51 | 5.40 | 6.32 | NS | 4.43 | 4.91 | 6.10 | 4.69 | 6.30 | NS | NS | NS | 6.67 | 4.51 | 6.29 | 5.83 | 6.42 | 4.56 | 4.98 | 6.69 | 5.30 | 5.40 | 4.50 |
| **Temperature (ºC)** | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | 26.09 | 26.90 | 23.92 | 30.14 | 24.33 | 25.80 | NS | 27.84 | 23.99 | NS | 25.19 | 25.27 | 22.71 | NS | 26.41 | 26.25 | NI | NI | NI | NI | NI | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-04 | NS | 17.30 | NS | NS | NS | NS | 21.17 | 19.57 | NS | NS | NS | 18.20 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| May-05 | NS | 21.35 | NS | NS | NS | NS | NS | NS | NS | NS | 21.40 | 20.91 | NS | NS | NS | 23.00 | NS | NI | NI | NI | NI | NI | NI |
| Aug-05 | NS | 23.79 | NS | NS | NS | NS | NS | NS | NS | NS | 25.06 | 25.12 | NS | NS | NS | 26.79 | NS | NI | NI | NI | NI | NI | NI |
| Jun-06 | NS | 22.45 | NS | 22.76 | 24.08 | 24.45 | 26.75 | 27.12 | NS | NS | 22.97 | 24.20 | NS | 24.20 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Oct-06 | 23.00 | 24.39 | NS | 21.00 | 21.00 | 23.00 | 24.73 | 26.16 | NS | NS | 23.00 | 24.60 | NS | 21.00 | NS | 26.00 | NS | 20.00 | NI | NI | NI | NI | NI |
| Dec-06 | 20.05 | 21.54 | NS | 22.01 | 23.60 | 22.16 | 23.72 | 21.80 | NS | NS | 22.98 | 22.02 | NS | 20.63 | NS | 21.93 | NS | NS | NI | NI | NI | NI | NI |
| Mar-07 | 18.71 | 19.21 | NS | 21.71 | 22.29 | 19.95 | 24.45 | 19.22 | NS | NS | 20.44 | 20.68 | NS | 18.79 | NS | 20.68 | NS | NS | NI | NI | NI | NI | NI |
| Sep-07 | 28.90 | 24.78 | 27.40 | 21.93 | 25.83 | 24.99 | 28.95 | 27.37 | 27.84 | NS | 27.46 | NS | 26.80 | 23.67 | 28.31 | 31.12 | 27.03 | 24.67 | NI | NI | NI | NI | NI |
| May-08 | 25.70 | 19.38 | NS | 20.77 | NS | 20.15 | 25.25 | 22.82 | NS | NS | NS | 22.78 | NS | 20.65 | NS | 24.69 | NS | NS | NI | NI | NI | NI | NI |
| Dec-08 | 21.05 | 19.97 | NS | 20.71 | NS | 21.40 | 22.06 | 21.81 | NS | NS | NS | 20.91 | NS | NS | NS | 22.22 | NS | NS | NI | NI | NI | NI | NI |
| Apr-09 | 22.14 | 18.49 | 19.94 | 21.34 | 21.84 | 20.06 | 21.40 | 19.76 | 18.93 | NS | NS | 20.94 | 17.84 | 18.90 | 21.24 | 21.08 | 18.92 | 20.77 | NI | NI | NI | NI | NI |
| Sep-09 | 30.96 | 26.51 | NS | 22.64 | NS | 27.23 | 26.48 | 27.32 | NS | NS | NS | 27.10 | NS | 25.60 | NS | 29.67 | NS | NS | NI | NI | NI | NI | NI |
| Apr-10 | 24.02 | 20.28 | 21.43 | NS | 24.13 | 20.48 | 23.17 | 21.14 | 20.64 | NS | NS | NS | 20.27 | 19.16 | 21.32 | 22.57 | 20.74 | 19.08 | NI | NI | NI | NI | NI |
| Oct-11 | 26.05 | 3.70 | 24.89 | NS | 29.24 | 22.08 | 23.97 | 26.72 | 24.54 | NS | NS | NS | 23.08 | 23.68 | 25.30 | 27.49 | 25.44 | 24.45 | 25.58 | 23.18 | 26.20 | 23.80 | 25.72 |

***Table 5***
***Ground Water Natural Attenuation Parameters (Modified from ERM, 2010)***
***Vopak***
***Savannah, GA***

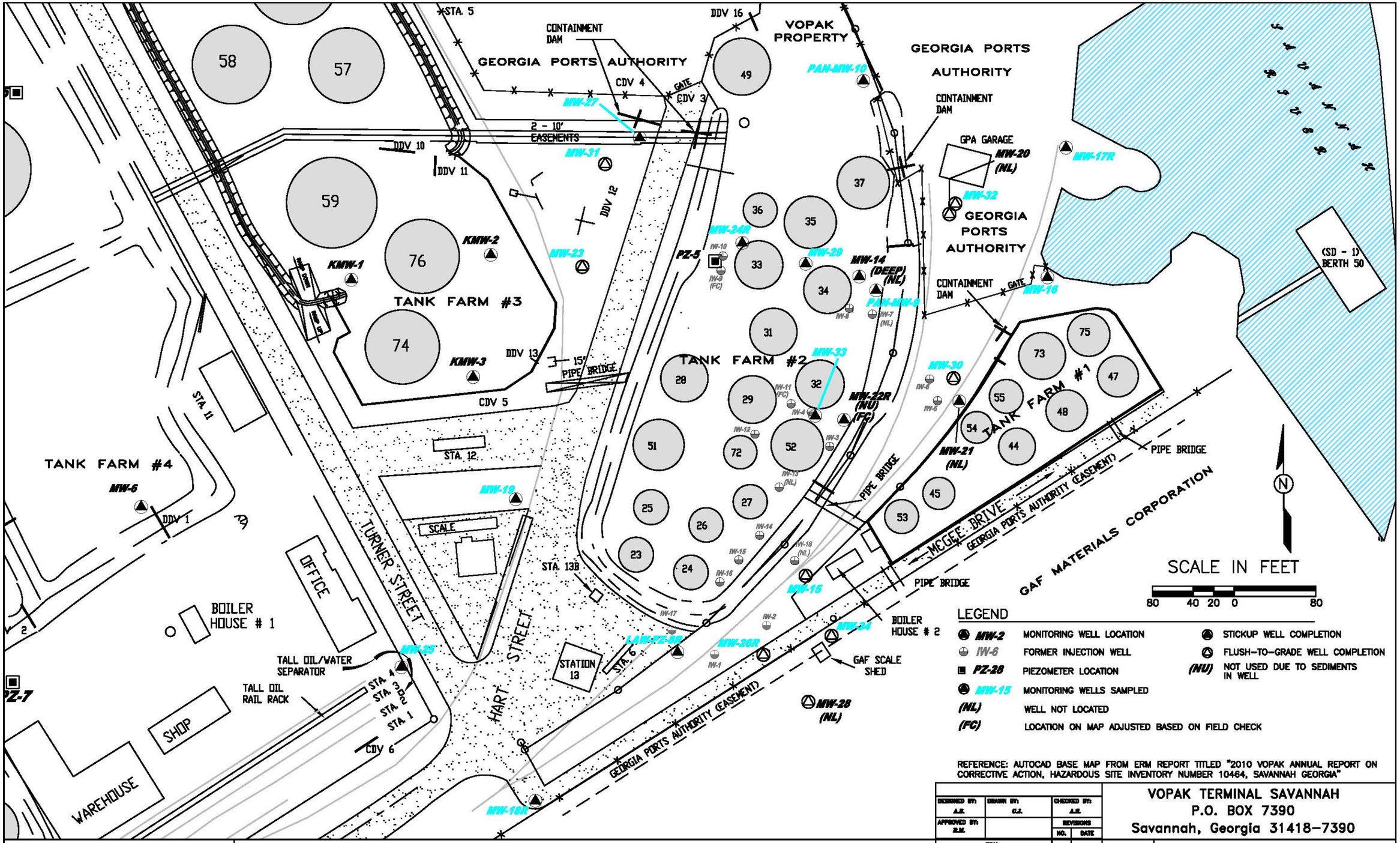
| Wells | LAW-PZ-8 / LAW-PZ-8R | PAN MW-9 | PAN-MW-10 | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20*[1] | MW-21*[2] | MW-22/MW-22R*[3] | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27*[5] | MW-29 | MW-30*[2] | MW-31 | MW-32*[1] | MW-33*[3] | MW-34*[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dissolved Oxygen, mg/L** | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | 0.51 | 0.45 | 0.39 | 0.70 | 0.79 | 0.36 | NS | 0.49 | 1.44 | NS | 0.57 | 0.35 | 0.55 | NS | 2.14 | 0.33 | NI | NI | NI | NI | NI | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-04 | NS | 0.13 | NS | NS | NS | NS | 0.19 | 0.17 | NS | NS | NS | 0.17 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| May-05 | NS | 0.11 | NS | NS | NS | NS | NS | NS | NS | NS | 1.73 | 0.43 | NS | NS | NS | 0.36 | NS | NI | NI | NI | NI | NI | NI |
| Aug-05 | NS | 0.11 | NS | NS | NS | NS | NS | NS | NS | NS | 0.16 | 0.42 | NS | NS | NS | 0.12 | NS | NI | NI | NI | NI | NI | NI |
| Jun-06 | NS | 0.30 | NS | 22.40 | 3.50 | 7.18 | 2.14 | 1.53 | NS | NS | 0.81 | 1.04 | NS | 7.86 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Oct-06 | NS | 3.75 | NS | 2.80 | 4.40 | 6.50 | 1.86 | 0.88 | NS | NS | 2.70 | 0.81 | NS | 5.00 | NS | 1.60 | NS | 11.20 | NI | NI | NI | NI | NI |
| Dec-06 | 0.68 | 0.14 | NS | 6.04 | 3.76 | 1.49 | 1.56 | 1.09 | NS | NS | 0.41 | 3.15 | NS | 2.03 | NS | 0.69 | NS | NS | NI | NI | NI | NI | NI |
| Mar-07 | 1.48 | 19.69 | NS | 2.98 | 4.39 | 6.13 | 11.22 | 0.42 | NS | NS | 7.35 | 2.25 | NS | 114.19 | NS | 0.70 | NS | NS | NI | NI | NI | NI | NI |
| Sep-07 | 0.92 | 4.92 | 4.23 | 5.35 | 5.80 | 0.79 | 3.64 | 1.24 | 1.88 | NS | 2.38 | NS | 2.11 | 0.54 | 1.49 | 1.46 | 1.13 | 2.59 | NI | NI | NI | NI | NI |
| May-08 | 1.07 | 4.02 | NS | 2.38 | NS | 5.71 | 2.47 | 2.32 | NS | NS | NS | 0.89 | NS | 1.63 | NS | 2.15 | NS | NS | NI | NI | NI | NI | NI |
| Dec-08 | 0.41 | 34.00 | NS | 1.61 | NS | 2.00 | 3.31 | 1.10 | NS | NS | NS | 5.68 | NS | 2.53 | NS | 0.69 | NS | NS | NI | NI | NI | NI | NI |
| Apr-09 | 0.24 | 0.62 | 0.38 | 3.89 | 0.84 | 3.22 | 0.94 | 1.34 | 0.64 | NS | NS | 1.32 | 0.68 | 0.83 | 0.54 | 0.46 | 0.82 | 1.16 | NI | NI | NI | NI | NI |
| Sep-09 | 1.88 | 1.38 | NS | 2.44 | NS | 120.00 | 3.02 | 1.24 | NS | NS | NS | 36.00 | NS | 1.00 | NS | 107.00 | NS | NS | NI | NI | NI | NI | NI |
| Apr-10 | 1.38 | 2.98 | 1.83 | NS | 1.75 | 1.81 | 1.49 | 9.00 | 2.03 | NS | NS | NS | 1.98 | 2.99 | 2.09 | 1.86 | 3.42 | 2.20 | NI | NI | NI | NI | NI |
| Oct-11 | 0.00 | 0.79 | 0.00 | NS | 0.00 | 0.00 | 3.69 | 0.00 | 1.14 | NS | NS | NS | 0.00 | 0.00 | 0.00 | 0.00 | 3.39 | 0.00 | 0.00 | 5.10 | 0.32 | 0.00 | 0.43 |
| **Conductivity, ms/cm** | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | 0.341 | 0.404 | 0.373 | 0.384 | 0.302 | 4.170 | NS | 0.423 | 0.292 | NS | 0.649 | 0.532 | 0.317 | NS | 0.227 | 0.217 | NI | NI | NI | NI | NI | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-04 | NS | 0.340 | NS | NS | NS | NS | 2.860 | 0.310 | NS | NS | NS | 0.570 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| May-05 | NS | 0.310 | NS | NS | NS | NS | NS | NS | NS | NS | 0.145 | 0.377 | NS | NS | NS | 23.000 | NS | NI | NI | NI | NI | NI | NI |
| Aug-05 | NS | 0.326 | NS | NS | NS | NS | NS | NS | NS | NS | 0.215 | 0.483 | NS | NS | NS | 0.324 | NS | NS | NI | NI | NI | NI | NI |
| Jun-06 | NS | 0.585 | NS | 0.470 | 0.481 | 0.319 | 2.587 | 0.308 | NS | NS | 12.525 | 3.515 | NS | 0.262 | NS | NS | NS | NS | NI | NI | NI | NI | NI |
| Oct-06 | 0.001 | 0.575 | NS | 0.400 | 0.410 | 0.310 | 0.429 | 0.235 | NS | NS | 0.500 | 6.943 | NS | 0.340 | NS | 0.460 | NS | 0.740 | NI | NI | NI | NI | NI |
| Dec-06 | 0.609 | 0.490 | NS | 0.451 | 0.217 | 0.322 | 0.790 | 0.122 | NS | NS | 0.408 | 5.162 | NS | 0.743 | NS | 0.476 | NS | NS | NI | NI | NI | NI | NI |
| Mar-07 | 0.618 | 0.401 | NS | 0.465 | 0.480 | 0.419 | 0.872 | 0.150 | NS | NS | 0.854 | 5.809 | NS | 1.303 | NS | 0.443 | NS | NS | NI | NI | NI | NI | NI |
| Sep-07 | 0.333 | 1.440 | 0.560 | 0.451 | 0.134 | 0.407 | 0.726 | 0.212 | 0.209 | NS | 0.468 | NS | 0.220 | 1.554 | 0.300 | 0.444 | 0.487 | 0.694 | NI | NI | NI | NI | NI |
| May-08 | 0.809 | 1.004 | NS | 0.454 | NS | 0.382 | 0.857 | 0.296 | NS | NS | NS | 4.940 | NS | 0.996 | NS | 0.519 | NS | NS | NI | NI | NI | NI | NI |
| Dec-08 | 0.606 | 1.282 | NS | 0.406 | NS | 0.418 | 0.525 | 0.270 | NS | NS | NS | 1.279 | NS | 0.406 | NS | 0.395 | NS | NS | NI | NI | NI | NI | NI |
| Apr-09 | 0.779 | 1.053 | 0.334 | 0.442 | 1.100 | 0.486 | 0.579 | 0.250 | 0.624 | NS | NS | 1.530 | 1.049 | 0.629 | 0.397 | 0.810 | 0.626 | 0.618 | NI | NI | NI | NI | NI |
| Sep-09 | 0.718 | 0.947 | NS | 0.480 | NS | 0.572 | 0.513 | 0.273 | NS | NS | NS | 1.074 | NS | 0.548 | NS | 0.647 | NS | NS | NI | NI | NI | NI | NI |
| Apr-10 | 0.824 | 1.816 | 0.394 | NS | 0.615 | 0.612 | 0.566 | 0.291 | 0.941 | NS | NS | NS | 1.126 | 0.649 | 0.524 | 0.674 | 1.087 | 2.078 | NI | NI | NI | NI | NI |
| Oct-11 | 0.930 | 0.407 | 0.530 | NS | 1.490 | 0.397 | 0.514 | 0.305 | 0.824 | NS | NS | NS | 1.200 | 0.534 | 0.699 | 0.391 | 0.639 | 1.460 | 0.192 | 1.340 | 1.080 | 0.559 | 0.208 |

***Table 5***
***Ground Water Natural Attenuation Parameters (Modified from ERM, 2010)***
***Vopak***
***Savannah, GA***

| Wells | LAW-PZ-8 / LAW-PZ-8R | PAN MW-9 | PAN-MW-10 | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18/ MW-18R | MW-19 | MW-20*[1] | MW-21*[2] | MW-22/MW-22R*[3] | MW-23 | MW-24/ MW-24R | MW-25 | MW-26 / MW-26R | MW-27*[5] | MW-29 | MW-30*[2] | MW-31 | MW-32*[1] | MW-33*[3] | MW-34*[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ORP, mv | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | -180.0 | -6.0 | -153.0 | -164.0 | -26.0 | -22.0 | NS | 6.0 | 22.0 | NS | 16.0 | 134.0 | 178.0 | NS | 323.0 | 75.0 | NI | NI | NI | NI | NI | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Mar-04 | NS | 142.7 | NS | NS | NS | NS | 67.7 | 233.9 | NS | NS | NS | 208.9 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| May-05 | NS | 66.9 | NS | NS | NS | NS | NS | NS | NS | NS | 25.5 | 169.5 | NS | NS | NS | 231.6 | NS | NI | NI | NI | NI | NI | NI |
| Aug-05 | NS | -112.6 | NS | NS | NS | NS | NS | NS | NS | NS | -18.1 | 146.1 | NS | NS | NS | 223.3 | NS | NI | NI | NI | NI | NI | NI |
| Jun-06 | NS | -21.6 | NS | 44.7 | NS | 31.2 | 32.1 | 332.2 | NS | NS | -69.6 | 38.6 | NS | 78.4 | NS | NS | NS | NI | NI | NI | NI | NI | NI |
| Oct-06 | NS | -227.7 | NS | NS | NS | NS | -96.1 | 244.9 | NS | NS | NS | 85.2 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI |
| Dec-06 | -151.8 | -184.4 | NS | -181.2 | -179.4 | -156.1 | -182.3 | -154.8 | NS | NS | -154.3 | -178.9 | NS | -146.4 | NS | -156.2 | NS | NS | NI | NI | NI | NI | NI |
| Mar-07 | -203.2 | -179.5 | NS | -81.5 | -189.1 | -63.3 | -156.3 | 226.3 | NS | NS | -187.8 | -87.0 | NS | -101.7 | NS | -204.5 | NS | NS | NI | NI | NI | NI | NI |
| Sep-07 | -11.4 | -29.6 | 103.3 | 66.2 | -148.6 | -25.8 | -77.3 | 312.2 | 4.9 | NS | -62.7 | NS | -102.5 | 37.3 | -103.4 | -72.0 | 48.3 | 48.1 | NI | NI | NI | NI | NI |
| May-08 | 139.7 | 163.7 | NS | 353.9 | NS | 60.0 | -26.5 | 317.0 | NS | NS | NS | 300.4 | NS | 199.9 | NS | 34.4 | NS | NS | NI | NI | NI | NI | NI |
| Dec-08 | -4.3 | 35.0 | NS | -47.9 | NS | 23.1 | -50.3 | 338.7 | NS | NS | NS | -104.9 | NS | 120.2 | NS | -104.6 | NS | NS | NI | NI | NI | NI | NI |
| Apr-09 | 18.2 | 91.8 | -23.5 | 49.3 | -53.2 | 10.2 | -97.6 | 446.0 | -19.3 | NS | NS | -24.2 | -101.0 | 132.0 | -132.0 | -23.2 | 8.9 | -31.3 | NI | NI | NI | NI | NI |
| Sep-09 | -139.0 | -119.0 | NS | -8.2 | NS | 59.6 | -89.4 | 81.3 | NS | NS | NS | -111.0 | NS | 120.0 | NS | -19.1 | NS | NS | NI | NI | NI | NI | NI |
| Apr-10 | 48.7 | 118.0 | -5.6 | NS | -24.2 | 15.9 | -64.4 | 150.4 | -7.8 | NS | NS | NS | -74.0 | 118.0 | -102.0 | 42.8 | 18.2 | -12.7 | NI | NI | NI | NI | NI |
| Oct-11 | 94 | 99 | 183 | NS | 201 | 182 | 83 | 368 | 192 | NS | NS | NS | 159 | 237 | 41 | 86 | 176 | 163 | 141 | 148 | 127 | 113 | 385 |

NS = Not sampled
NI = Well Not yet Installed
LAW-PZ-8 was found damaged during June 2006 sampling event and was not sampled. It was replaced by LAW-PZ-8R on 10/9/2006.
MW-17 was replaced by MW-17R on 10/10/2006.
MW-26 was replaced by MW-26R on 10/9/2006.
*1 MW-20 was not located (possibly paved over), MW-32 was installed as a replacement
*2 MW-21 was not located, MW-30 was installed as a replacement
*3 MW-22 was filled with silt and could not be sampled, MW-33 was installed as a replacement
*4 MW-28 was not located, MW-34 was installed as a replacement
*5 MW-27 was not possitively identified but is assumed. MW-31 was installed as a replacement for MW-27 but lies approximately where MW-27 had been shown on previous site maps

# FIGURES

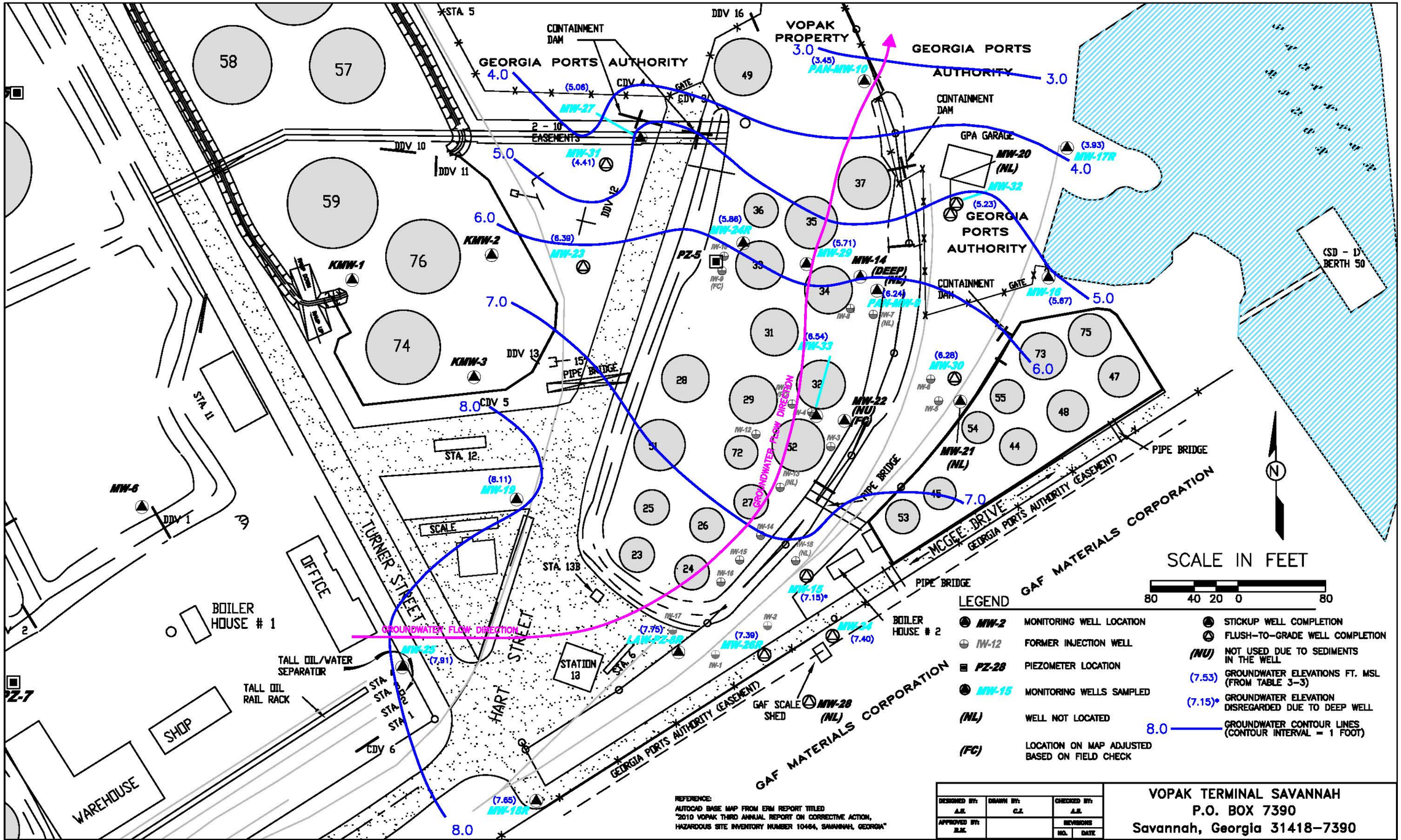



REFERENCE: AUTOCAD BASE MAP FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

| | | | |
|---|---|---|---|
| DESIGNED BY: A.E. | DRAWN BY: C.J. | CHECKED BY: A.E. | VOPAK TERMINAL SAVANNAH<br>P.O. BOX 7390<br>Savannah, Georgia 31418-7390 |
| APPROVED BY: R.M. | | REVISIONS NO. / DATE | |
| SEAL: | | | ENVIRONMENTAL INTERNATIONAL CORP.<br>161 KIMBALL BRIDGE ROAD<br>ALPHARETTA GEORGIA 30009 |
| | | SCALE: SEE BAR SCALE | DATE: 08/20/2012 FILE: Contour Maps.dwg SHEET NO.: |

NOTES:
ALL MONITORING WELLS EAST OF OFFICE, FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

FIGURE 1
GROUNDWATER SAMPLING LOCATIONS




REFERENCE:
AUTOCAD BASE MAP FROM ERM REPORT TITLED
"2010 VOPAK THIRD ANNUAL REPORT ON CORRECTIVE ACTION,
HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH, GEORGIA"

NOTES:
ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL" AND "FC" WELLS), FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

# FIGURE 2
## GROUNDWATER POTENTIOMETRIC SURFACE MAP
## OCTOBER 25–27, 2011

| | | | |
|---|---|---|---|
| DESIGNED BY: A.E. | DRAWN BY: C.I. | CHECKED BY: A.E. | |
| APPROVED BY: R.K. | | REVISIONS NO. | DATE |

SEAL:

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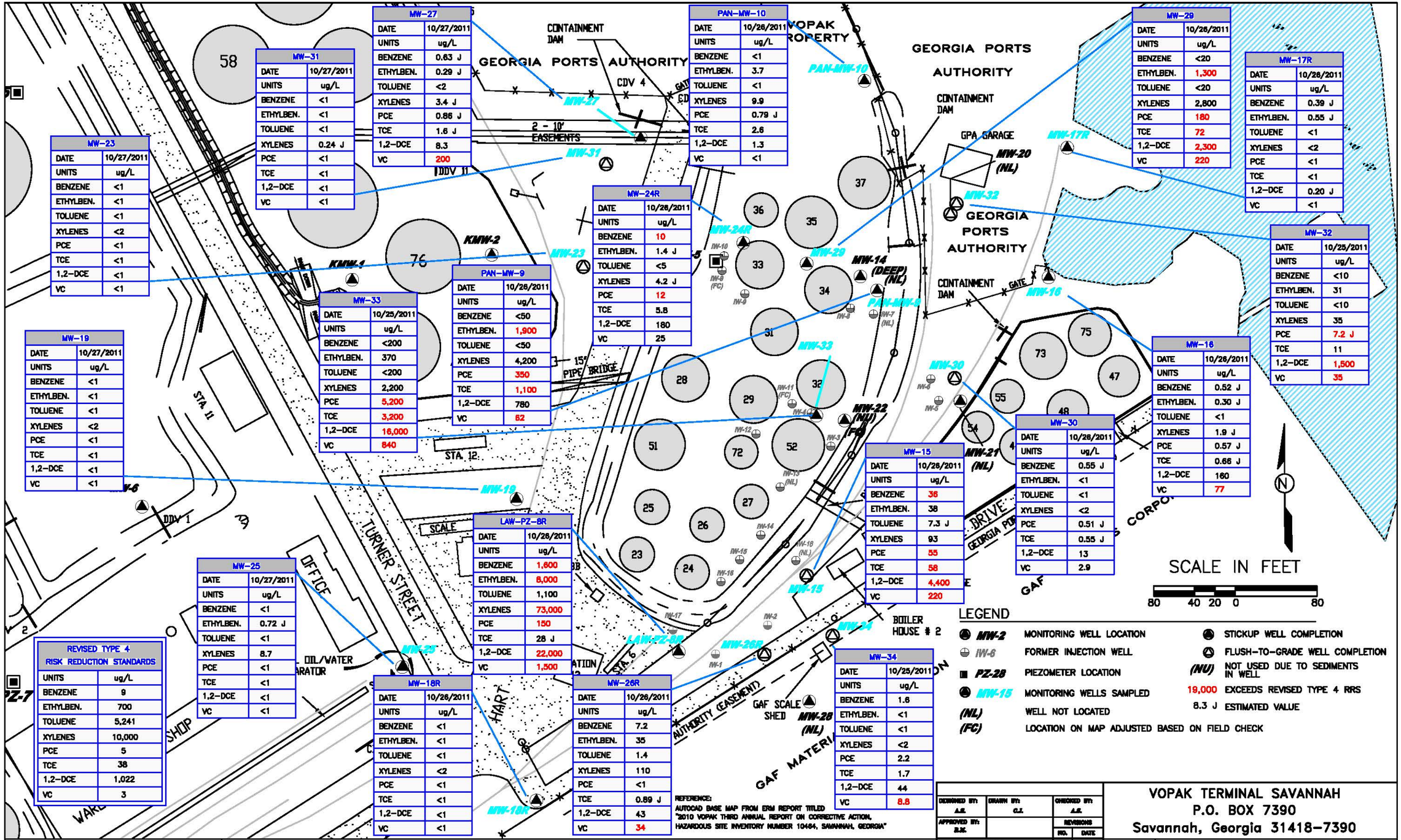
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 05/11/2011 | FILE: 390000-2011 WELL-INSTAL REHAB | SHEET NO.:




NOTES:
ALL MONITORING WELLS "MW" EAST OF OFFICE (EXCEPT "NL" AND "FC" WELLS), FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

REFERENCE:
AUTOCAD BASE MAP FROM ERM REPORT TITLED "2010 VOPAK THIRD ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH, GEORGIA"

# FIGURE 3
# GROUNDWATER ANALYTICAL RESULTS

DESIGNED BY: A.E. | DRAWN BY: C.I. | CHECKED BY: A.E.
APPROVED BY: B.K.
REVISIONS: NO. | DATE

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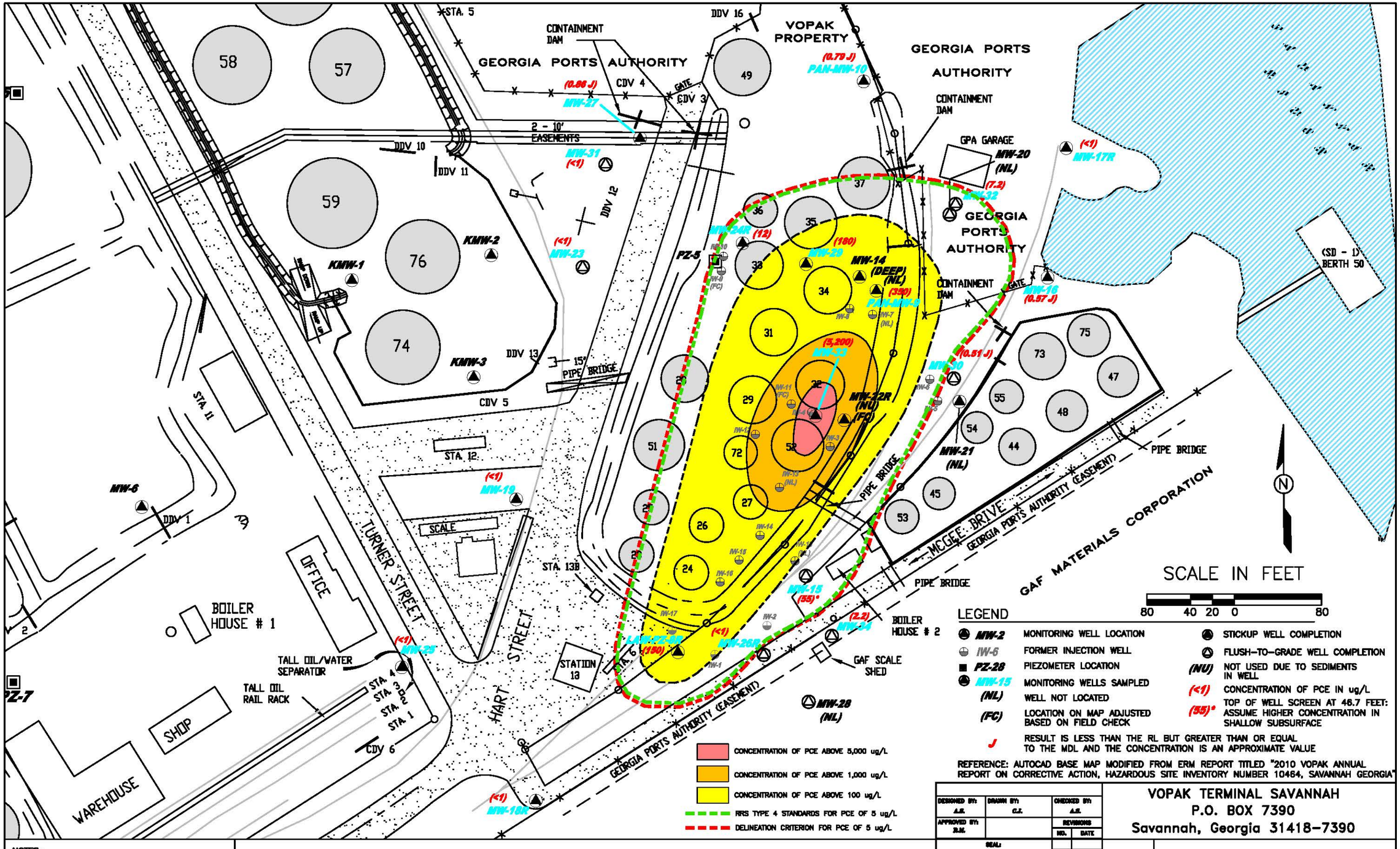
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 12/16/2011 | FILE: 000080- 1ST MNA SAMPLING | SHEET NO.:




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES:

ALL MONITORING WELLS "MW" EAST OF OFFICE (EXCEPT "NL" AND "FC" WELLS), FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

# FIGURE 4
# PCE PLUME MAP
# OCTOBER 25–27, 2011

| DESIGNED BY: A.S. | DRAWN BY: C.I. | CHECKED BY: A.S. |
|---|---|---|
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

SEAL:

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Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
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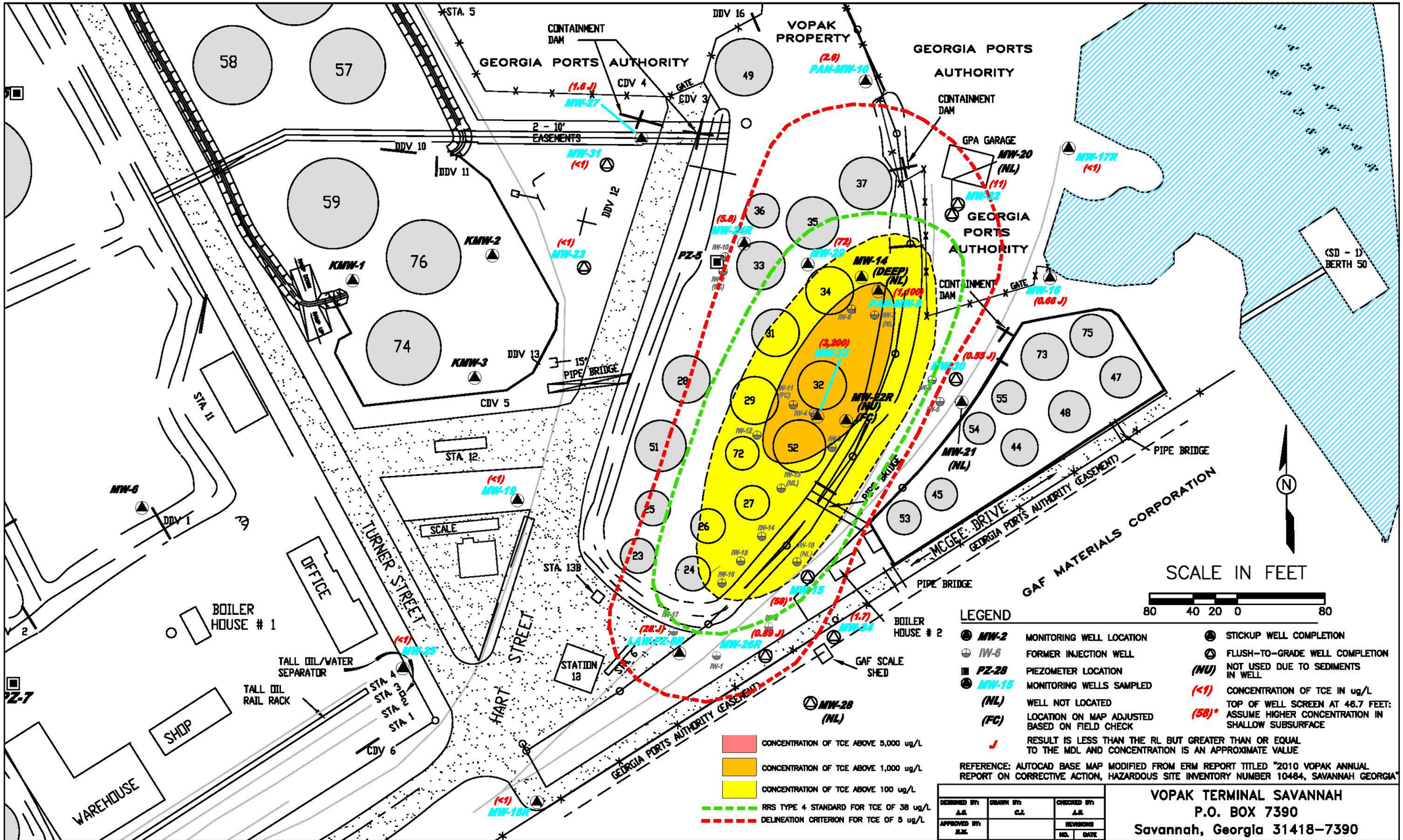
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/28/2011 | FILE: 390080 – 1ST MNA SAMPLING | SHEET NO.:




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES:

ALL MONITORING WELLS "MW" EAST OF OFFICE (EXCEPT "NL" AND "FC" WELLS), FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

# FIGURE 5
# TCE PLUME MAP
# OCTOBER 25–27, 2011

| DESIGNED BY: A.S. | DRAWN BY: C.J. | CHECKED BY: A.S. |
|---|---|---|
| APPROVED BY: R.K. | | REVISIONS NO. DATE |

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Savannah, Georgia 31418-7390

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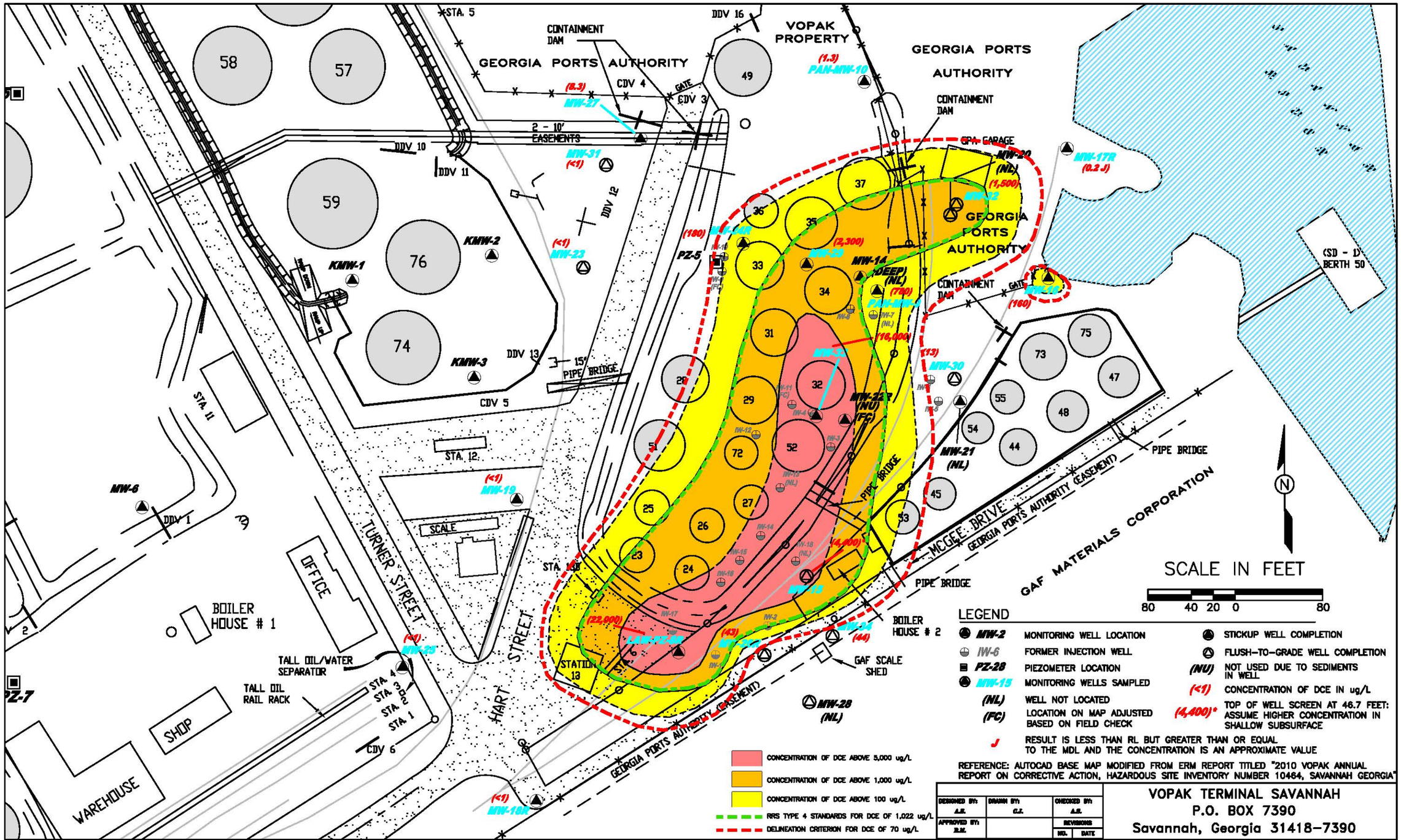
ALPHARETTA GEORGIA 30009

SCALE: 1IN=200FT | DATE: 11/28/2011 | FILE: 390080 - 1ST MNA SAMPLING | SHEET NO.:




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES:

ALL MONITORING WELLS "MW" EAST OF OFFICE (EXCEPT "NL" AND "FC" WELLS), FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

# FIGURE 6
## 1,2 – DCE PLUME
## OCTOBER 25–27, 2011

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: C.I. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

SEAL:

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Savannah, Georgia 31418-7390

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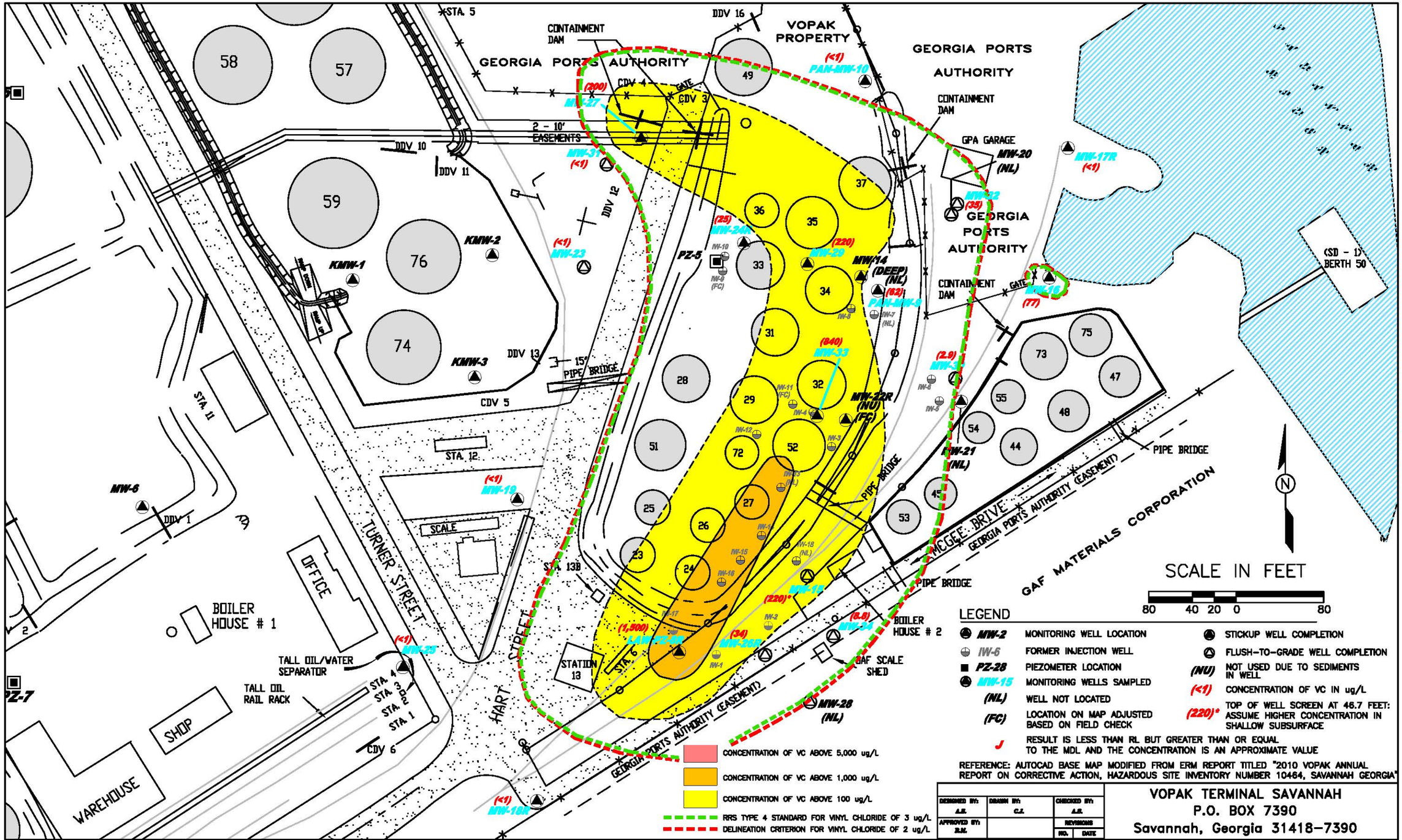
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 11/28/2011 | SHOSEG - 1ST MNA SAMPLING | |




NOTES:
ALL MONITORING WELLS "MW" EAST OF OFFICE (EXCEPT "NL" AND "FC" WELLS), FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

# FIGURE 7
# VINYL CHLORIDE PLUME
# OCTOBER 25–27, 2011

| | | | |
|---|---|---|---|
| DESIGNED BY: A.E. | DRAWN BY: C.I. | CHECKED BY: A.E. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

SEAL:

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P.O. BOX 7390
Savannah, Georgia 31418-7390

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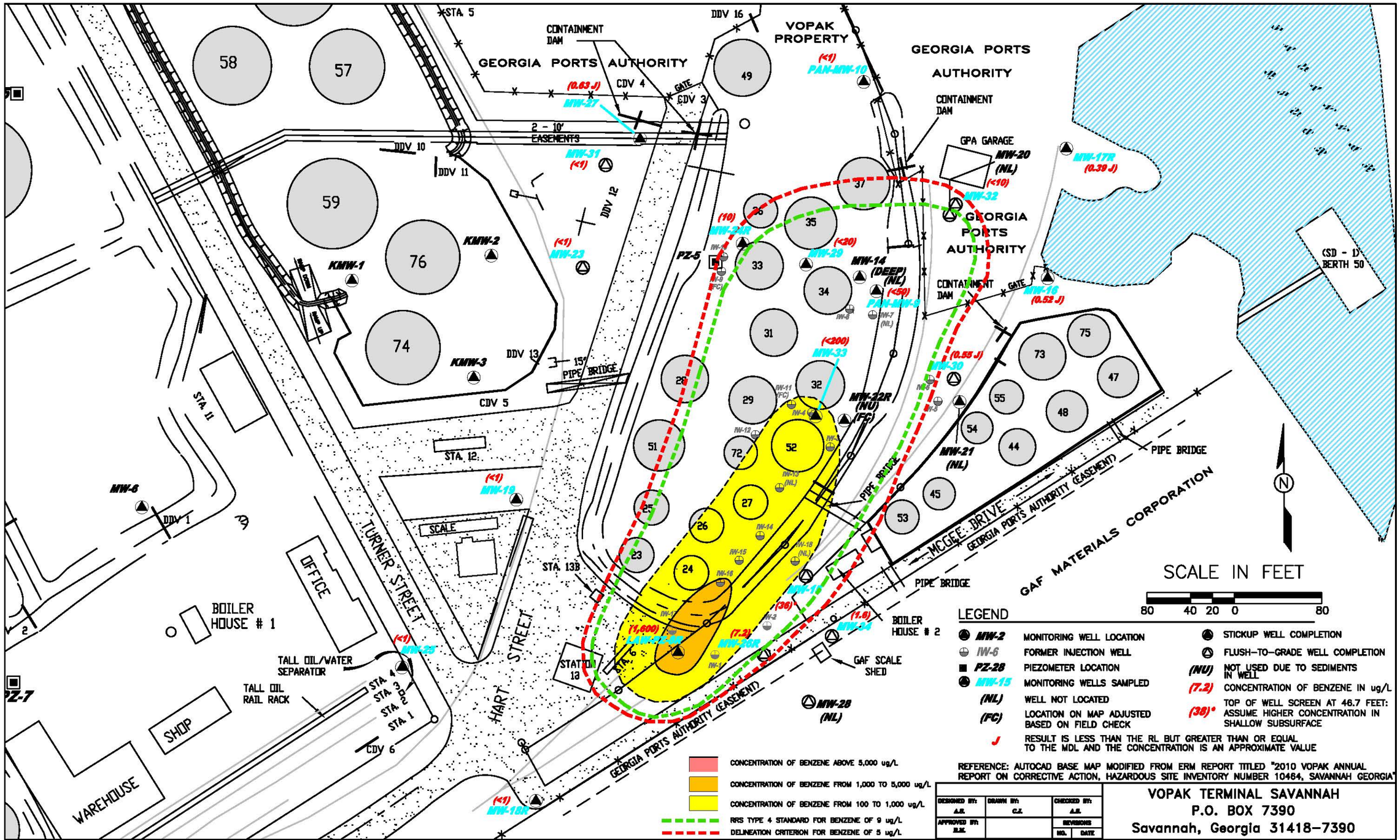
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/28/2011 | FILE: 390080 - 1ST MPA SAMPLING | SHEET NO.:




NOTES:
ALL MONITORING WELLS "MW" EAST OF OFFICE (EXCEPT "NL" AND "FC" WELLS), FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

# FIGURE 8
# BENZENE PLUME MAP
# OCTOBER 25-27, 2011

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: C.I. | CHECKED BY: A.S. | |
| APPROVED BY: R.K. | | REVISIONS NO. | DATE |

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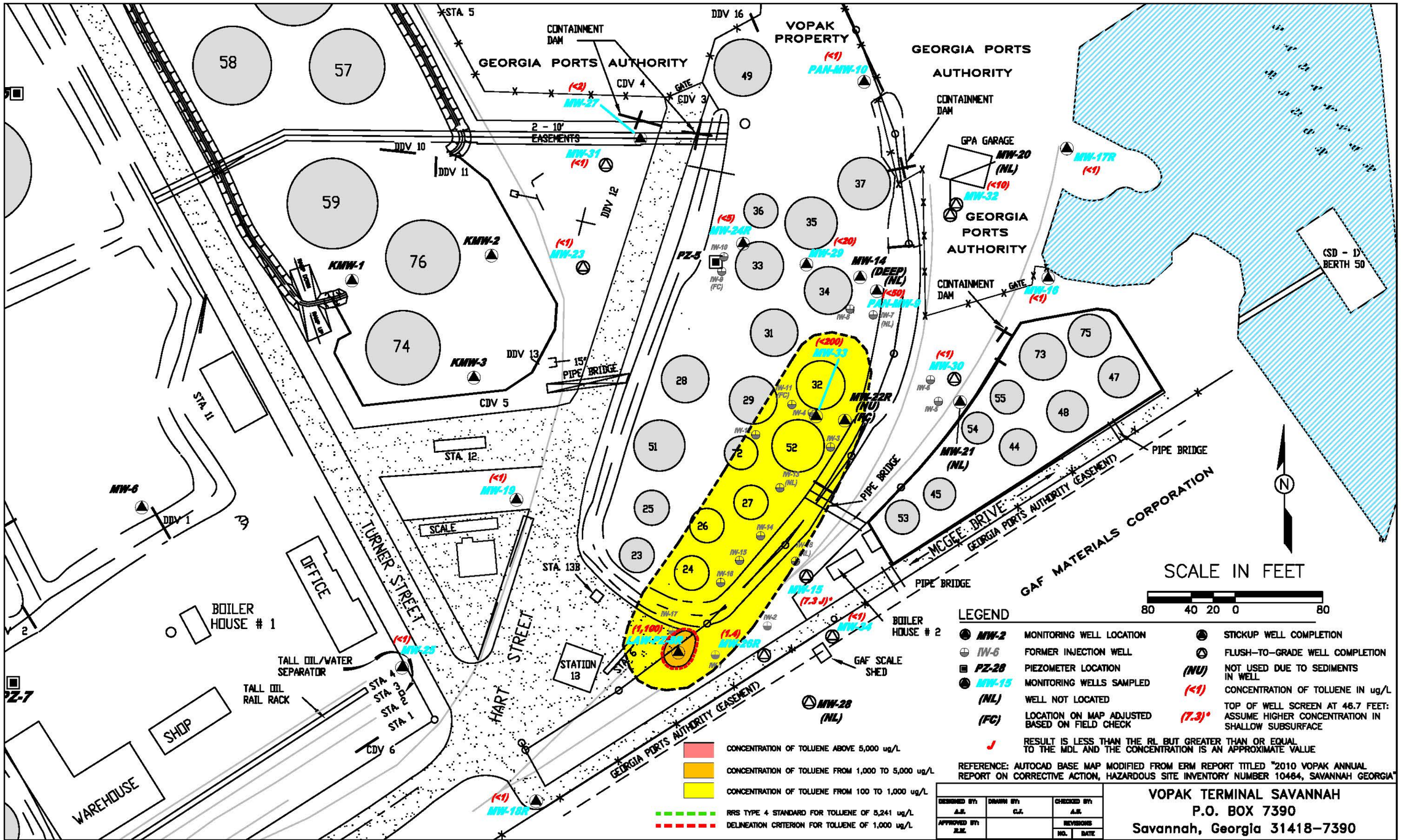
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/28/2011 | FILE: 990080 - 1ST MNA SAMPLING | SHEET NO.:




NOTES:
ALL MONITORING WELLS "MW" EAST OF OFFICE (EXCEPT "NL" AND "FC" WELLS), FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

# FIGURE 9
# TOLUENE PLUME MAP
# OCTOBER 25–27, 2011

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: C.J. | CHECKED BY: A.S. | |
| APPROVED BY: E.M. | | REVISIONS NO. | DATE |

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Savannah, Georgia 31418-7390

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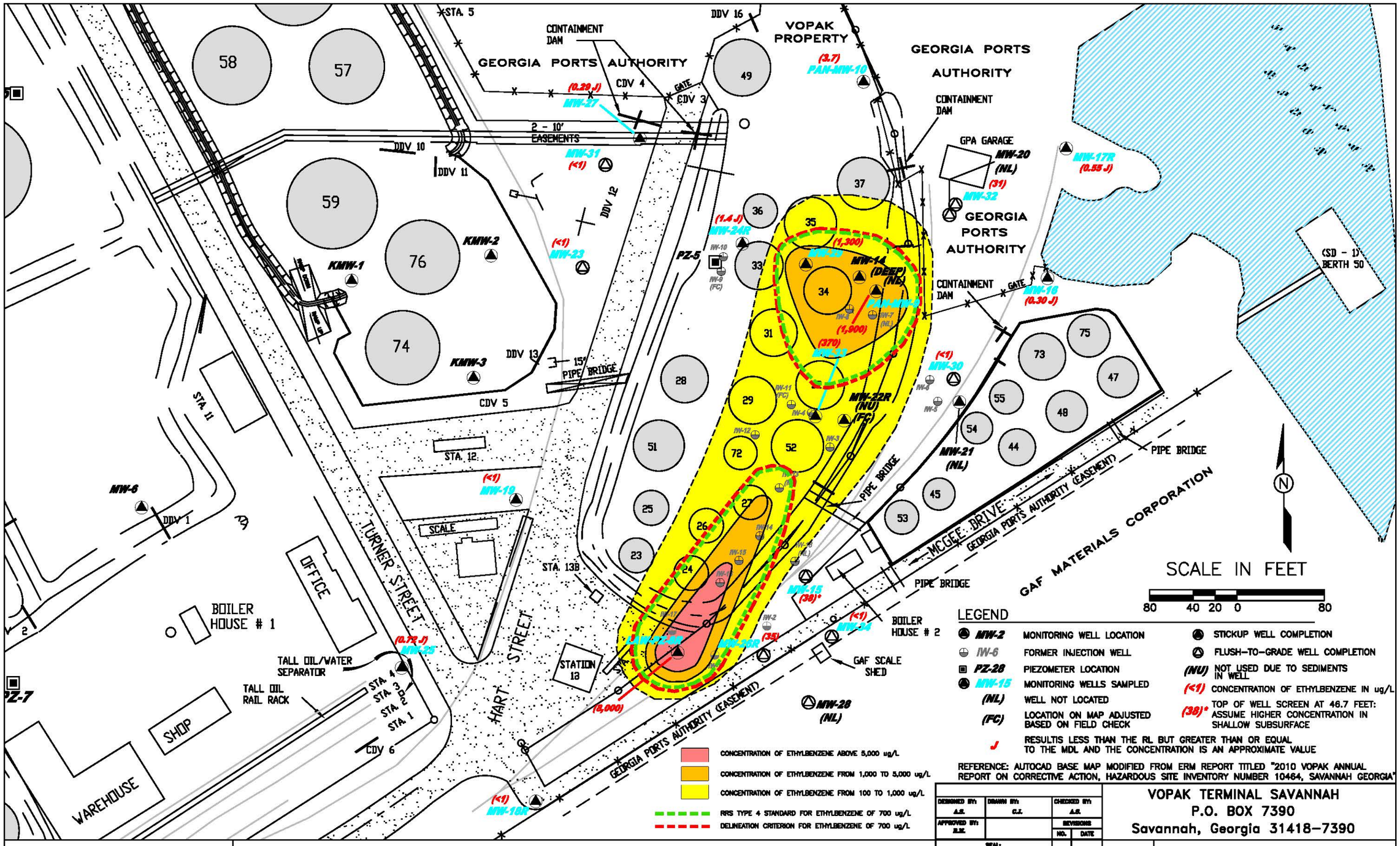
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 11/28/2011 | 990080 - 1ST MNA SAMPLING | |




NOTES:
ALL MONITORING WELLS "MW" EAST OF OFFICE (EXCEPT "NL" AND "FC" WELLS), FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

# FIGURE 10
# ETHYLBENZENE PLUME MAP
# OCTOBER 25-27, 2011

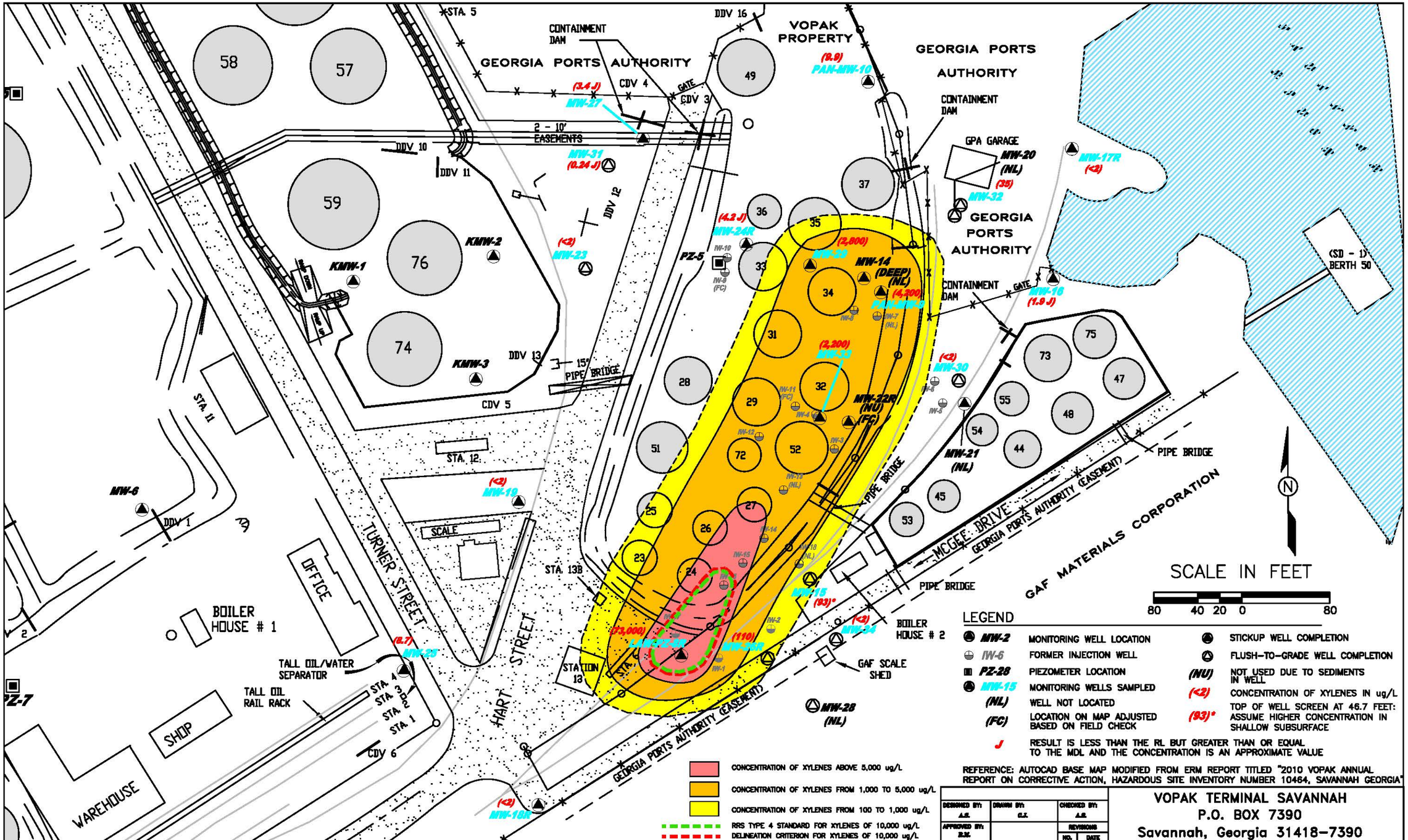
DESIGNED BY: A.S. | DRAWN BY: C.J. | CHECKED BY: A.S. | APPROVED BY: R.M.
REVISIONS: NO. | DATE

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

SEAL:

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/28/2011 | FILE: 350085 - 1ST MNA SAMPLING | SHEET NO.:




NOTES:
ALL MONITORING WELLS "MW" EAST OF OFFICE (EXCEPT "NL" AND "FC" WELLS), FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

# FIGURE 11
# TOTAL XYLENES PLUME MAP
# OCTOBER 25–27, 2011

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

DESIGNED BY: A.S. | DRAWN BY: G.Z. | CHECKED BY: A.S.
APPROVED BY: R.M.
REVISIONS: NO. | DATE

SEAL:

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/28/2011 | FILE: 000000 - 1ST MNA SAMPLING | SHEET NO.:

# ATTACHMENT A

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-PZ-8R

| | | | |
|---|---|---|---|
| DATE: 10/26/2011 | PROJECT NAME: Vopak/Savannah | | PROJECT NO: |
| WEATHER CONDITIONS: Fair, 70°F, 15 mph wind | | | |
| WELL DIAMETER (IN.) | ☑ 1 ☐ 2 ☐ 4 ☐ 6 ☐ OTHER | | |
| SAMPLE TYPE: | ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER | | |
| WELL DEPTH (TOC) FT. | | WATER LEVEL (TOC) 6.27 | FT. |
| LENGTH OF WATER FT. | | CALCULATED ONE WELL VOLUME: | GAL. |
| PURGING DEVICE: peristaltic pump | | ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED | |
| SAMPLING DEVICE: 1/4" teflon tubing | | ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED | |
| EQUIP. DECON. ☐ TAP WATER WASH | | ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE | |
| ☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE | | ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE | |
| ☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE | | ☐ TAP WATER FINAL RINSE ☑ AIR DRY | |
| CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED | | | |
| PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 488 | |
| ANALYTICAL PARAMETERS: 8260B | | | |
| LABORATORY PERFORMING ANALYSIS: Test America | | Rental # 10872 | |
| WATER ANALYZER MODEL: Horiba U52-2 | | SERIAL NO: HGS # PDSWPVAF | |

| TIME | VOLUME PURGED ~~(GAL)~~ mL | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 14:24 | | | | | | | | DTW 6.27 |
| 14:34 | 0 | 23.62 | 0.779 | 5.88 | 0.00 | >800 | 107 | N/A Turbidity ~~0~~ Fluctuating |
| 14:39 | 1280 | 25.35 | 0.891 | 5.53 | 0.00 | 723 | 110 | N/A Fluid B |
| 14:44 | 2860 | 25.97 | 0.881 | 5.54 | 0.00 | 555 | 99 | N/A brown colored |
| 14:49 | 4500 | 26.00 | 0.926 | 5.53 | 0.00 | 423 | 96 | N/A |
| 14:54 | 6100 | 26.05 | 0.930 | 5.51 | 0.00 | 388 | 94 | N/A |
| 14:57 | | | | | | | | 6.50 |

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 14:35 – sewer odor

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Adam Franks

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

cut 20' of tubing
set tubing intake at 10' below TOC
14:29 – pump on at 10 speed
14:32 Lowered tubing in well
14:34 Adjusted silicon tubing in peristaltic & began to flow
14:34 set speed to 6.

EIC

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: PAN-MW29

DATE: 10/26/2011 | PROJECT NAME: Vopak/Savannah | PROJECT NO:

WEATHER CONDITIONS: Fair, ~75°F, 5 mph wind

WELL DIAMETER (IN.) ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) FT. | WATER LEVEL (TOC) 6.35 FT.

LENGTH OF WATER FT. | CALCULATED ONE WELL VOLUME: GAL.

PURGING DEVICE: Peristaltic Pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: 1/4" Tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE
☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE
☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 166

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America Rental # 16872

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: HCS # POSWPVAF

| TIME | VOLUME PURGED (~~GAL~~) ml | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | DTW | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 17:41 | | | | | | | | 6.35 | |
| 17:50 | 0 | 24.31 | .8359 | 6.17 | 2.02 | 520 | 95 | 7.55 | Bio Fouling — light brown tint |
| 17:55 | 1040 | 23.87 | .401 | 5.74 | 0.81 | 142 | 89 | 8.55 | both yellow |
| 18:00 | 2100 | 23.93 | .424 | 5.65 | 0.71 | 207 | 83 | 9.57 | + black |
| 18:05 | 3260 | 23.95 | .455 | 5.50 | 0.76 | 209 | 85 | 10.42 | initially clear then tan |
| 18:10 | 4200 | 23.79 | .497 | 5.40 | 0.79 | 166 | 99 | 10.44 | |

COMMENTS ON WELL RECOVERY/OTHER: much Condensation on bottom of well cap.

SAMPLE COLLECTION TIME: 18:11

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Alan Jenkins

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

cut 20' of hose & set intake to 8.5' below TOC
17:41 pump on at 10 speed
17:50 switch to
17:55 lowed tape into a or 2 ft since water level touched tube. 17:59 pumped 2.

# WELL PURGING AND SAMPLING DATA

| | | | |
|---|---|---|---|
| DATE: 8/28/11 | PROJECT NAME: Vapor/Savannah | WELL/SAMPLE NO: PAV-MW-10 | |
| WEATHER CONDITIONS: Fair 78° F w/ 5 MPH wind | | PROJECT NO: | |
| WELL DIAMETER (IN.) | ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ OTHER | | |
| SAMPLE TYPE: | ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER | | |
| WELL DEPTH (TOC) FT. | | WATER LEVEL (TOC) 10.96 FT. | |
| LENGTH OF WATER FT. | | CALCULATED ONE WELL VOLUME: GAL. | |
| PURGING DEVICE: Peristaltic pump | | ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED | |
| SAMPLING DEVICE: 1/4" TEFLON TUBING | | ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED | |
| EQUIP. DECON. | ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE | | |
| ☑ ALCONOX WASH | ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE | | |
| ☐ LIQUINOX WASH | ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY | | |
| CONTAINER PRESERVATION: | ☑ LAB PRESERVED ☐ FIELD PRESERVED | | |
| PID/FID READINGS (ppm): | BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0 | | |
| ANALYTICAL PARAMETERS: 8260 B | | | |
| LABORATORY PERFORMING ANALYSIS: Test America | | | |
| WATER ANALYZER MODEL: U52-2 | | SERIAL NO: Rental # 10877 HORIBA # P0SWPVHF | |

| TIME | VOLUME PURGED (GAL/mL) | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 18:34 | | | | | | | | PTW 10.36 |
| 18:48 | 0 | 23.44 | 0.485 | 6.34 | 1.98 | 0.0 | 130 | 10.56 — clear water |
| 18:53 | 1380 | 24.68 | 0.526 | 6.29 | 0.21 | 0.0 | 178 | 10.57 |
| 18:58 | 2400 | 24.89 | 0.530 | 6.32 | 0.0 | 0.0 | 183 | 10.61 |
| | | | | | | | | |
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COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 18:59 — slight sheen on DTW

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Adam Smith

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

Cut 20' of hose & set intake at 12.5'

18:47 pump in 10 speed.

18:48 Lowered speed to 4

18:56 pumped 2000 mL into bucket

# WELL PURGING AND SAMPLING DATA

| | | | |
|---|---|---|---|
| | | | WELL/SAMPLE NO: MW-15 |
| DATE: 11/26/2011 | PROJECT NAME: Vopak / SAV Annual | | PROJECT NO: 390.001 |
| WEATHER CONDITIONS: Fair, ~78°F, c 5mph wind | | | |
| WELL DIAMETER (IN.) | ☑ 1 ☐ 2 ☐ 4 ☐ 6 ☐ OTHER | | |
| SAMPLE TYPE: | ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER | | |
| WELL DEPTH (TOC) FT. | | WATER LEVEL (TOC) 2.92 | FT. |
| LENGTH OF WATER FT. | | CALCULATED ONE WELL VOLUME: | GAL. |
| PURGING DEVICE: Peristaltic Pump | | ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED | |
| SAMPLING DEVICE: 1/4" Teflon Tubing | | ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED | |
| EQUIP. DECON. | ☐ TAP WATER WASH | ☐ ISOPROPANOL | ☐ ANALYTE FREE FINAL RINSE |
| ☑ ALCONOX WASH | ☑ DIST/DEION 1 RINSE | ☐ OTHER SOLVENT | ☐ DIST/DEION FINAL RINSE |
| ☐ LIQUINOX WASH | ☐ DIST/DEION 2 RINSE | ☐ TAP WATER FINAL RINSE | ☑ AIR DRY |
| CONTAINER PRESERVATION: | ☐ LAB PRESERVED ☐ FIELD PRESERVED | | |
| PID/FID READINGS (ppm): | BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 2.6 |
| ANALYTICAL PARAMETERS: 8260B | | | |
| LABORATORY PERFORMING ANALYSIS: Test America | | | Rental # 16872 |
| WATER ANALYZER MODEL: Horiba U52-2 | | SERIAL NO: HGS # POSWPIAF | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TIME | VOLUME PURGED (GAL) | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | REMARKS |
| 12:54 | | | | | | | | DTW / DTP |
| 13:10 | 0.00 | 28.74 | 0.879 | 5.05 | 5.30 | 79.3 | 210 | 2.92 / 2.90 start Vopak oil as later |
| 13:15 | 1180 | 29.10 | 0.866 | 4.55 | 0.00 | 207 | 211 | N/A |
| 13:20 | 2100 | 29.36 | 1.17 | 4.46 | 0.00 | 144 | 210 | N/A |
| 13:25 | 3200 | 29.25 | 1.34 | 4.43 | 0.00 | 66.7 | 209 | N/A |
| 13:30 | 4100 | 29.11 | 1.44 | 4.43 | 0.00 | 38.7 | 205 | N/A |
| 13:35 | ~~4240~~ | 29.24 | 1.49 | 4.43 | 0.00 | 24.5 | 201 | N/A |
| 13:44 | 5100 | | | | | | | 3.29 |

| | |
|---|---|
| COMMENTS ON WELL RECOVERY/OTHER: | SAMPLE COLLECTION TIME: 13:38 - particulates in bottle |
| | DUPLICATE ☐ TIME: ID#: |
| | EQUIP. BLANK: ☐ TIME: ID#: |
| PREPARED BY: Adam Kemp | ENVIRONMENTAL INTERNATIONAL CORPORATION |

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

Cut 20' of hose & set intake at 9' ←?
13:10 pump on at 10 speed & Turned down to 3 speed before 13:11
Few black particulates in 1st flow
Used ~~Peristaltic~~ piece of 1/2" PP pipe ≈6" long taped on end & filled with DI water to lower tube in well & peristaltic tube.

# WELL PURGING AND SAMPLING DATA

| | | | |
|---|---|---|---|
| | | | WELL/SAMPLE NO: MW-11 |
| DATE: 10/26/2011 | PROJECT NAME: Vopak/Savannah | | PROJECT NO: 890020 |
| WEATHER CONDITIONS: Fair, ~65°F, <5mph wind | | | |
| WELL DIAMETER (IN.) | ☑ 1 ☐ 2 ☐ 4 ☐ 6 ☐ OTHER | | |
| SAMPLE TYPE: | ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER | | |
| WELL DEPTH (TOC) FT. | | WATER LEVEL (TOC) 11.34 | FT. |
| LENGTH OF WATER FT. | | CALCULATED ONE WELL VOLUME: | GAL. |
| PURGING DEVICE: 1/4" Teflon | | ☒ DEDICATED ☑ DISPOSABLE | ☐ DECONTAMINATED |
| SAMPLING DEVICE: Peristaltic pump | | ☐ DEDICATED ☐ DISPOSABLE | ☐ DECONTAMINATED |
| EQUIP. DECON. | ☐ TAP WATER WASH | ☐ ISOPROPANOL | ☐ ANALYTE FREE FINAL RINSE |
| ☑ ALCONOX WASH | ☑ DIST/DEION 1 RINSE | ☐ OTHER SOLVENT | ☐ DIST/DEION FINAL RINSE |
| ☐ LIQUINOX WASH | ☐ DIST/DEION 2 RINSE | ☐ TAP WATER FINAL RINSE | ☑ AIR DRY |
| CONTAINER PRESERVATION: | ☑ LAB PRESERVED | ☐ FIELD PRESERVED | |
| PID/FID READINGS (ppm): | BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 1.3 |
| ANALYTICAL PARAMETERS: | 8260B | | |
| LABORATORY PERFORMING ANALYSIS: | Test America | | Rental # 16892 |
| WATER ANALYZER MODEL: Horiba U52-2 | | | SERIAL NO: HRS# PCSWPVAF |

| TIME | VOLUME PURGED (~~GAL~~) mL | TEMP (DEG C) | SPEC. COND (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | DTW | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 9:15 | | | | | | | | 11.34 | |
| 9:24 | 0 | 16.88 | 0.488 | 5.92 | 3.10 | 262 | 156 | N/A | clear water |
| 9:29 | 740 | 20.69 | 0.455 | 5.78 | 0.00 | 575 | 132 | N/A | |
| 9:34 | 1540 | 21.57 | 0.415 | 5.10 | 0.00 | 337 | 175 | N/A | |
| 9:39 | 2200 | 21.88 | 0.410 | 4.94 | 0.00 | 147 | 182 | N/A | |
| 9:44 | 2900 | 21.78 | 0.401 | 4.93 | 0.00 | 71.9 | 182 | N/A | |
| 9:49 | ~~3560~~ | 22.08 | 0.397 | 4.91 | 0.00 | 50.1 | 182 | N/A | |
| | | | | | | | | | |
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|---|---|
| COMMENTS ON WELL RECOVERY/OTHER: TPH odors in well casing water tubing stuck but tubing past | SAMPLE COLLECTION TIME: 9:51 |
| | DUPLICATE ☐ TIME: ID#: |
| PREPARED BY: Adam Grant | EQUIP. BLANK: ☐ TIME: ID#: |
| | ENVIRONMENTAL INTERNATIONAL CORPORATION |

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

water was sheen smell

cut 20' of Hose
5' of intake at 13.5'
9:22 pump on at 8 speed
9:24 turned speed to 35 psi

0 - order of readings from Horiba

EIC

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-17R

DATE: 10/25/2011 | PROJECT NAME: Vapor/Sampson | PROJECT NO:

WEATHER CONDITIONS: Fair, 70°F, 5 MPH wind, low humidity

WELL DIAMETER (IN.) ☑ 1 ☐ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) FT. | WATER LEVEL (TOC) 11.96 FT.

LENGTH OF WATER FT. | CALCULATED ONE WELL VOLUME: GAL.

PURGING DEVICE: Peristaltic pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: 3/4" Teflon Tubing ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE

☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE

☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.00 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 141

ANALYTICAL PARAMETERS: 8260B

LABORATORY PERFORMING ANALYSIS: 1st Amer TCA Rental # 16872

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: HUS # P0SUPUAF

| TIME | VOLUME PURGED ~~(GAL)~~ ML | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | DTW | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 17:29 | | | | | | | | 11.96 | Bladder pump in MW |
| 17:38 | 0 | 23.56 | 0.320 | 7.06 | 6.50 | 0.0 | 80 | N/A | probe in flow through cell |
| 17:43 | 760 | 24.08 | 0.488 | 6.09 | 4.64 | 0.0 | 94 | N/A | |
| 17:48 | 1340 | 24.10 | 0.503 | 6.09 | 4.25 | 0.0 | 86 | N/A | |
| 17:53 | 1800 | 23.97 | 0.514 | 6.10 | 3.69 | 0.0 | 83 | N/A | |
| 18:03 | | | | | | | | 16.53 | |

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 17:55

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Adam Frank

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

17:37 pump on at 1A speed
-20' of hose from TOC to water
17:40 switched from 3 to 2 speed

16.66'

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-18R

DATE: 10/26/2011 | PROJECT NAME: Vopak/Savannah | PROJECT NO:

WEATHER CONDITIONS: FAIR, ~80°F, 25 mph

WELL DIAMETER (IN.) ☑ 1 ☐ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) FT. | WATER LEVEL (TOC) 6.47 FT.

LENGTH OF WATER FT. | CALCULATED ONE WELL VOLUME: GAL.

PURGING DEVICE: Peristaltic Pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: Vol tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON.
☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE
☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE
☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.1 BENEATH INNER CAP: 0.0

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | Rental #16872

WATER ANALYZER MODEL: Horiba U52-2 | SERIAL NO: HGS # POSWPVAF

| TIME | VOLUME PURGED (GAL) mL | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 14:26 | | | | | | | | DTW 6.47 |
| 14:31 | 0 | 27.85 | .313 | 4.43 | 0.22 | 73.5 | 162 | N/A (clear water) |
| 14:36 | 1600 | 26.73 | .303 | 4.50 | 0.00 | 9.6 | 391 | N/A |
| 14:41 | 3100 | 26.93 | .302 | 4.64 | 0.00 | 0.0 | 373 | N/A |
| 14:46 | 4300 | 28.72 | .305 | 4.69 | 0.00 | 0.0 | 368 | N/A |
| 14:49 | | | | | | | | DTW 6.65 |

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 14:47 - no odor noticed

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Adam Stumpf

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

(at 20' of tubing & set intake at 10' fol on TOC

14:29 pump on at 10 speed
14:31 pump at 3 speed
14:37 2000 mL dumped & turned speed to 2.5
14:47 pump off 14:45 Dumped 2nd 2000mL

EIC

# WELL PURGING AND SAMPLING DATA

| | | | |
|---|---|---|---|
| DATE: 10/27/11 | PROJECT NAME: Vopak/Savannah | WELL/SAMPLE NO: MW-19 | PROJECT NO: 390020 |

WEATHER CONDITIONS: Overcast, ~70°F, 5 mph wind

WELL DIAMETER (IN.) ☑ 1 ☐ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

| | | | |
|---|---|---|---|
| WELL DEPTH (TOC) | FT. | WATER LEVEL (TOC) 6.80 | FT. |
| LENGTH OF WATER | FT. | CALCULATED ONE WELL VOLUME: | GAL. |

PURGING DEVICE: Peristaltic pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon Tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE

☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE

☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0 — Well cap was off

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: TestAmerica Rmtnl #16872

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: HOS # POSWPUAF

| TIME | VOLUME PURGED (GAL) mL | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 9:20 | | | | | | | | DTW 6.80 |
| 9:26 | 0 | 23.01 | .814 | 6.78 | 2.33 | 145 | 137 | N/A = Pump water |
| 9:31 | 1300 | 24.25 | .832 | 6.99 | 1.65 | 4.2 | 175 | N/A Light brown |
| 9:36 | 2600 | 24.51 | .839 | 6.32 | 1.17 | 0.0 | 186 | N/A |
| 9:41 | 3940 | 24.54 | .824 | 6.30 | 1.14 | 32.5 | 192 | N/A — Flowing very clear |
| 9:46 | | | | | | | | 6.85 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 9:42 — No noticeable water

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Allen Spahr

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

Cut 20' of tubing & set in take 10' below TOC
9:24 pump on at 10 speed
9:26 set speed at 3.5.

EIC

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-23

DATE: 10/27/2011 | PROJECT NAME: VOPak/ Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Overcast, ~70°F, Humid, 05 mph wind

WELL DIAMETER (IN.) ☑ 1 ☐ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) FT. | WATER LEVEL (TOC) 4.00 FT.

LENGTH OF WATER FT. | CALCULATED ONE WELL VOLUME: GAL.

PURGING DEVICE: Peristaltic pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon Tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE

☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE

☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

ANALYTICAL PARAMETERS: 8260B

LABORATORY PERFORMING ANALYSIS: Test America Rental # 18892

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: HRS # POSWPV1HF

| TIME | VOLUME PURGED (GAL) ~~ML~~ | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | DTW | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 10:03 | | | | | | | | 4.00 | |
| 10:07 | 0 | 21.76 | 1.44 | 7.00 | 155 | 384 | 177 | N/A | - Initially |
| 10:12 | 1000 | 22.78 | 1.18 | 6.79 | 0.00 | 290 | 181 | N/A | FCD flat |
| 10:17 | 2200 | 22.97 | 1.23 | 6.69 | 0.00 | 403 | 167 | N/A | for for |
| 10:22 | 3420 | 23.08 | 1.20 | 6.67 | 0.00 | 180 | 154 | N/A | 5 cleans |
| 10:26 | | | | | | | | 3.79 | then clear |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 10:23

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Alan Graham

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

cut 20' of tubing & set intake at 7' bgl ↑ TOC

10:06 ~~X~~ pump on at 10 speed

10:07 Flow at 3 speed

EIC

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-24R

DATE: 10/26/2011 | PROJECT NAME: Van Nuys/Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Fair, ~90° F, ENE 5 mph wind

WELL DIAMETER (IN.) ☑ 1 ☐ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) FT. | WATER LEVEL (TOC) 5.95 FT.

LENGTH OF WATER FT. | CALCULATED ONE WELL VOLUME: GAL.

PURGING DEVICE: Peristaltic Pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: 1/4" ID Teflon tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE
☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE
☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.2

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America Rental #16872

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: HFS# POSWPVAF

| TIME | VOLUME PURGED ~~(GAL)~~ mL | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | DTW | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 15:17 | | | | | | | | 5.95 | Clear with low solids; yellow brown. |
| 15:22 | 0.0 | 25.43 | .578 | 4.55 | 1.03 | 110 | 259 | N/A | |
| 15:27 | 1380 | 24.16 | .590 | 4.43 | 0.00 | 56.7 | 246 | N/A | |
| 15:32 | 2760 | 23.88 | .534 | 4.51 | 0.00 | 50.1 | 237 | N/A | |
| 15:39 | | | | | | | | 6.50 | |

mL 1380

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 15:34 ~~DUP~~ Strong sewage odor, FOR small white pellets in bottles.

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Adam Semple ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

15:20 pump on at 10 speed.
cut 20' of tubing & set intake 10' below TOC
15:22 At 3 speed 15:30 - dump 2,000mL

EIC

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-25

DATE: 10/27/2011 | PROJECT NAME: | PROJECT NO: 390020

WEATHER CONDITIONS: OVC/cst, ~70°F, < 5 mph wind

WELL DIAMETER (IN.) ☑ 1 ☐ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) FT. | WATER LEVEL (TOC) 6.85 FT.

LENGTH OF WATER FT. | CALCULATED ONE WELL VOLUME: GAL.

PURGING DEVICE: peristaltic pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon Tubing ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON.
☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE
☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE
☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☐ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.1

ANALYTICAL PARAMETERS: 8260B

LABORATORY PERFORMING ANALYSIS: Test America Rental # 16872

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: HFS # POSWPVAF

| TIME | VOLUME PURGED (GAL) | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 7:28 | | | | | | | | OTW 6.85 |
| 7:35 | 0 | 22.35 | .534 | 6.07 | 1.24 | 328 | 121 | N/A water has light brown color |
| 7:40 | 1360 | 24.77 | .664 | 6.18 | 0.0 | 158 | 88 | N/A |
| CS 7:45 | 3500 | 25.27 | 0.098 | 6.27 | 0.00 | 44.7 | 44 | N/A |
| CS 7:50 | 4800 | 25.37 | 0.099 | 6.29 | 0.00 | 15.2 | 41 | [redacted] |
| CS 7:52 | | | | | | | | 6.72 |

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 7:51

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: [signature]

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

cut 20' of tetlan tubing. set intake at 10' BTOC.
7:32 pump on at 10 speed
7:35 pump at 30 speed
7:36 pump at 4 speed
7:42 pump off 2,000 mL

EIC

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-26R

DATE: 10/26/2011 | PROJECT NAME: Vopak/Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Fall

WELL DIAMETER (IN.) ☑ 1 ☐ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) FT. | WATER LEVEL (TOC) 3.22 FT.

LENGTH OF WATER FT. | CALCULATED ONE WELL VOLUME: GAL.

PURGING DEVICE: Peristaltic pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: Teflon Tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE

☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE

☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0/0.5 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

ANALYTICAL PARAMETERS: 8260B

LABORATORY PERFORMING ANALYSIS: Test America

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: Rental # 18872 HOS # POSWPVAE

| TIME | VOLUME PURGED (GAL) | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 11:12 | | | | | | | | DTW 3.22 |
| 11:19 | 0 | 21.04 | 0.294 | 6.70 | 4.57 | 0.0 | 83 | N/A |
| 11:24 | 1180 | 26.24 | 0.419 | 5.89 | 0.1 | ~~3.6~~ 0.0 | 93 | N/A |
| 11:29 | ~~1460~~ * | 27.03 | 0.402 | 5.84 | 0.0 | 0.0 | 90 | N/A |
| 11:34 | ~~2480~~ ** | 27.35 | 0.393 | 5.83 | 0.0 | 0.0 | 89 | N/A |
| 11:40 | 4500 | 27.49 | 0.391 | 5.89 | 0.0 | 0.0 | 86 | N/A |
| 11:44 | | | | | | | | 2.91 |

2500 +1180 2000

2100 1180 280 1460 +1020 2480

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 11:45

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Adam Franke

ENVIRONMENTAL INTERNATIONAL CORPORATION

Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

cut 20' of hose + set hose at 50' below TOC

11:16 pump on at 60 speed.

11:19 switch speed to 3

11:27 Dumped 2 gpm from cylinder into 5 gal bucket

* 2280 ** 3300

4.40 cylinder full

# WELL PURGING AND SAMPLING DATA

| | | | |
|---|---|---|---|
| DATE: 8/27/11 | PROJECT NAME: Vopak / Savannah | | WELL/SAMPLE NO: MW-27 |
| WEATHER CONDITIONS: Overcast | | | PROJECT NO: 391020 |
| WELL DIAMETER (IN.) | ☑ 1 | ☑ 2 | ☐ 4 ☐ 6 ☐ OTHER |
| SAMPLE TYPE: | ☑ GROUNDWATER | ☐ WASTEWATER | ☐ SURFACE WATER ☐ OTHER |
| WELL DEPTH (TOC) FT. | | WATER LEVEL (TOC) 4.87 | FT. |
| LENGTH OF WATER FT. | | CALCULATED ONE WELL VOLUME: | GAL. |
| PURGING DEVICE: Peristaltic Pump | | ☐ DEDICATED | ☐ DISPOSABLE ☐ DECONTAMINATED |
| SAMPLING DEVICE: 1/4" Teflon tubing | | ☐ DEDICATED | ☑ DISPOSABLE ☐ DECONTAMINATED |

EQUIP. DECON.
☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE
☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE
☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: N/A BENEATH INNER CAP: 0.0

ANALYTICAL PARAMETERS: 8260B

LABORATORY PERFORMING ANALYSIS: Test America Rental #18872

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: HGS #P0SWTVAF

| TIME | VOLUME PURGED ~~(GAL)~~ mL | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | REMARKS |
|---|---|---|---|---|---|---|---|---|
| ~~11:12~~ | | | | | | | | DTW 4.87 |
| 11:20 | 0 | 23.78 | 0.612 | 7.28 | 0.00 | ~~8~~ 122 | 141 | N/A |
| 11:25 | 1100 | 24.63 | 0.621 | 6.97 | 6.21 | 120 | 167 | N/A 1800 PURGED |
| 11:30 | 1980 | 24.73 | 0.634 | 6.82 | 4.41 | 800 | 171 | N/A WATER TURNED |
| 11:35 | 3181 | 25.03 | 0.607 | 6.65 | 3.07 | 0.0 | 168 | N/A ~~BROWN~~ Dark |
| 11:41 | 4480 | 25.03 | 0.636 | 6.51 | 4.81 | 899 | 170 | N/A Brown Chlr-silty |
| 11:45 | 5420 | 25.13 | 0.633 | 6.48 | 4.35 | 920 | 172 | N/A |
| 11:50 | 6220 | 25.44 | 0.639 | 6.42 | ~~4.03~~ | 59.2 | 176 | N/A Turbidity |
| 11:56 | | | | | 5.39 | | | 5.97 probe app. malfunctioning |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

CS CS

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 11:53 - clear water, NO OD DF

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Adam Smith

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

11:19 pump on at 10 speed
Cut 20' of hose & set intake at 8 feet below TOC
11:20 pump on at 3.5 speed
11:36 lowered hose ~2' because air being recovered

EIC

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-29

DATE: 10/26/2011 | PROJECT NAME: Vopak/Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Fair, ~80°F, C5mph wind

WELL DIAMETER (IN.) ☐ 1 ☐ 2 ☐ 4 ☐ 6 ☑ OTHER 3/4" dia

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) FT. | WATER LEVEL (TOC) 6.02 FT.

LENGTH OF WATER FT. | CALCULATED ONE WELL VOLUME: GAL.

PURGING DEVICE: peristaltic pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE
☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE
☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 55.2

ANALYTICAL PARAMETERS: 8260B

LABORATORY PERFORMING ANALYSIS: TestAmerica Rental # 16872

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: HRS # P0SWPVAE

| TIME | VOLUME PURGED ~~(GAL)~~ mL | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | DTW | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 15:46 | | | | | | | | 6.02 | |
| 15:55 | 0 | 24.28 | ~~4.55~~ 1.18 | 4.55 | 0.00 | 19 | 183 | N/A | running clear |
| 16:00 | 700 | 24.38 | 1.30 | 4.45 | 0.00 | 59.2 | 178 | N/A | with bubbles |
| 16:03 | 1300 | 24.51 | 1.39 | 4.53 | 0.00 | 81.8 | 169 | N/A | No solids. |
| 16:12 | 1780 | 24.45 | 1.46 | 4.56 | 0.00 | 76.4 | 183 | N/A | |
| 16:21 | | | | | | | | 9.44 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

160705

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 16:13 — sewer odor. Few small white solids

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: [signature]

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

15:53 pump on at 10 speed
cut 20' of hose & set intake at 10' below TOC
15:55 Set pump speed to 3 when flow started in cylinder
DO reached 6.09 during decon.

EIC

# WELL PURGING AND SAMPLING DATA

| | | | |
|---|---|---|---|
| DATE: 10/26/2011 | PROJECT NAME: Vopak Savannah | WELL/SAMPLE NO: MW-30 | |
| | | PROJECT NO: 390020 | |

WEATHER CONDITIONS: Fair, ~70°F, C SMH wind

WELL DIAMETER (IN.) ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

| | | | |
|---|---|---|---|
| WELL DEPTH (TOC) | FT. | WATER LEVEL (TOC) 4.95 | FT. |
| LENGTH OF WATER | FT. | CALCULATED ONE WELL VOLUME: | GAL. |

PURGING DEVICE: Peristaltic pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE
☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE
☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 15.9, H2S fill

ANALYTICAL PARAMETERS: 8260B

LABORATORY PERFORMING ANALYSIS: Test America

WATER ANALYZER MODEL: Horiba U52-2 Rental # 16872 SERIAL NO: MFG# POSWPVHF

| TIME | VOLUME PURGED (GAL) mL | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 10:23 | | | | | | | | DTW 4.95 |
| 10:32 | 0.0 | 23.87 | 0.195 | 5.21 | 0.18↓ | 13.1 | 197 | 5.09 Clear water - bright |
| 10:37 | 1300 | 23.44 | 0.190 | 5.02 | 0.00 | 7.4 | 189 | 5.08 |
| 10:42 | 2200 | 25.50 | 0.192 | 4.99 | 0.00 | 0.7 | 148 | 5.07 |
| 10:47 | 3100 | 25.58 | 0.192 | 4.98 | 0.00 | 0.1 | 141 | 5.09 |

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 10:48 — slight sour smell of fluid

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Adam Kondra

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

Put 20' of hose & set at 7' below TOC
10:28 pump on at 10 speed. Difficult to get flow started.
10:32: 35 psed (changed to)

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-3

DATE: 10/27/11 | PROJECT NAME: Fort Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Overcast, ~50°F, 5 mph wind

WELL DIAMETER (IN.) ☒ 1 ☑ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) FT. | WATER LEVEL (TOC) 5.26 FT.

LENGTH OF WATER FT. | CALCULATED ONE WELL VOLUME: GAL.

PURGING DEVICE: Peristaltic pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON.
☑ ALCONOX WASH ☐ LIQUINOX WASH ☐ TAP WATER WASH ☑ DIST/DEION 1 RINSE ☐ DIST/DEION 2 RINSE ☐ ISOPROPANOL ☐ OTHER SOLVENT ☐ TAP WATER FINAL RINSE ☐ ANALYTE FREE FINAL RINSE ☐ DIST/DEION FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

ANALYTICAL PARAMETERS: 8260B

LABORATORY PERFORMING ANALYSIS: Test America Rental # 16872

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: HFS#POSWPVAF

| TIME | VOLUME PURGED (GAL)/mL | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 10:37 | | | | | | | | DTW 5.26 |
| 10:42 | 0 | 22.16 | .956 | 7.17 | 1.94 | 0.0 | 158 | VM – Flowing very clear |
| 10:46 | | | | | | | | 5.52 |
| 10:47 | 800 | 22.82 | 1.00 | 6.92 | 6.82 | 0.0 | 181 | 5.61 |
| 10:52 | 1900 | 23.07 | 1.31 | 6.87 | 6.25 | 0.0 | 157 | 5.65 |
| 10:57 | 3000 | 23.14 | 1.34 | 6.89 | 5.50 | 0.0 | 152 | 5.67 |
| 11:02 | 4000 | 23.18 | 1.34 | 6.89 | 5.10 | 0.0 | 148 | 5.67 |

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 11:03

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Alan Smith

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

cut 20' of hose. Set intake at 7.5' below TOC

10:41 pump on at 10 speed.

10:42

10:43 Hose to well separated from silicon tubing thru cell att pump & installed & thru pump on.

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-32

DATE: 10/25/2011 | PROJECT NAME: Vopak/Savannah | PROJECT NO: 39020

WEATHER CONDITIONS: Fair, ~77°F, low humidity, <5mph wind

WELL DIAMETER (IN.) ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) FT. | WATER LEVEL (TOC) 6.47 FT. CS

LENGTH OF WATER FT. | CALCULATED ONE WELL VOLUME: GAL.

PURGING DEVICE: peristaltic pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: VGH Teflon Tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE
☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE
☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 10.3 ± 1 H2S

ANALYTICAL PARAMETERS: 8260B

LABORATORY PERFORMING ANALYSIS: TCST Amherst Rental # 16872

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: HGS # P0SWPVAF

| TIME | VOLUME PURGED (~~GAL~~) ML | TEMP (DEG C) | SPEC. COND (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | DTW | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 16:09 | | | | | | | | ~~6.47~~ → 6.47 | |
| 16:53 | 0 | 25.64 | 1.08 | 5.21 | 1.92 | 0.7 | 162 | → 5 | 6.78 at 16:57 |
| 16:58 | 600 | 26.07 | 1.08 | 5.20 | 0.76 | 0.7 | 141 | 6.79 | clear water |
| 17:03 | 1300 | 26.20 | 1.08 | 5.31 | 0.32 | 2.0 | 127 | 7.90 | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 17:04

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Adam Hamlin

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

16:55 Increased speed to 3.9

cut 20' of hose (tubing)
- set intake at 8.50'
16:39 pump on at 3 speed
16:41 Increased speed to 4 speed.

16:44 Turned speed
16:47 Reset silicon tubing in pump for sucking & switched to ~~Drift~~ for few seconds then at 3 speed.

EIC

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-33

DATE: 10/26/11 | PROJECT NAME: Unpak/Savannah | PROJECT NO: 390128

WEATHER CONDITIONS: Fair, 70° F, 25 mph wind

WELL DIAMETER (IN.) ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) FT. | WATER LEVEL (TOC) 5.07 FT.

LENGTH OF WATER FT. | CALCULATED ONE WELL VOLUME: GAL.

PURGING DEVICE: Portista FPC Pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE

☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE

☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 84

ANALYTICAL PARAMETERS: 8260B

LABORATORY PERFORMING ANALYSIS: Test America Rental #16872

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: HOST# POSWPVAF

| TIME | VOLUME PURGED ~~(GAL)~~ ML | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | DTW | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 16:32 | | | | | | | | 5.07 | |
| 16:54 | 0 | 23.65 | .566 | 5.59 | 0.0 | 18.4 | 128 | 5.65 | |
| 16:59 | 1400 | 23.81 | 0.553 | 5.40 | 0.0 | 37.2 | 116 | 5.69 | WATER HAS |
| CS CS | | | | | | | | | YELLOWISH TINT |
| 17:04 | 2640 | 23.88 | 0.559 | 5.40 | 0.0 | 43.2 | 112 | 5.71 | -SMELLS LIKE CHEMICALS |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 17:10

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Adam Jamble

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

cut 20' at least & set intake to 7' ⇐
sprayed out flow thru cell prior to running pump
16:44 pump on at 1 spd
16:47 Flow cell leaking so adjusted gaskets
16:50 Adjusted gaskets again 16:53 Ran again after adjusting gaskets

used mini bailer to fill top off and bottle with bubble

EIC

# WELL PURGING AND SAMPLING DATA

WELL/SAMPLE NO: MW-34

DATE: 10/25/2011 | PROJECT NAME: Valpak/SAV 1st qtrly | PROJECT NO: 390020

WEATHER CONDITIONS: Fair, ~75°F Low hum. Sampling

WELL DIAMETER (IN.) ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ OTHER

SAMPLE TYPE: ☑ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

| | | | |
|---|---|---|---|
| WELL DEPTH (TOC) | FT. | WATER LEVEL (TOC) 3.41 | FT. |
| LENGTH OF WATER | FT. | CALCULATED ONE WELL VOLUME: | GAL. |

PURGING DEVICE: Peristaltic Pump ☐ DEDICATED ☐ DISPOSABLE ☐ DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon Tubing ☐ DEDICATED ☑ DISPOSABLE ☐ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE

☑ ALCONOX WASH ☑ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE

☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☑ AIR DRY

CONTAINER PRESERVATION: ☑ LAB PRESERVED ☐ FIELD PRESERVED

PID/FID READINGS (ppm): BACKGROUND: 0.2 BENEATH OUTER CAP: 0.1 BENEATH INNER CAP: 0.0

ANALYTICAL PARAMETERS: 8260B

LABORATORY PERFORMING ANALYSIS: Test America

WATER ANALYZER MODEL: Horiba U52-2 SERIAL NO: Rental #16872 HGS POSWPVAF

| TIME | VOLUME PURGED (GAL) ML | TEMP (DEG C) | SPEC. COND. (mS/cm) | Ph | DISS. OXYGEN mg/l | TURBIDITY (NTUs) | ORP (mV) | DTW | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 14:07 | | | | | | | | 3.41 | F.T.G well |
| 14 X:34 | 0.0 | 23.18 | 0.222 | 6.10 | 2.01 | 2.5 | 301 | NM | Clear liquid |
| 14 X:44 | 960 | 23.28 | 0.207 | 5.37 | 1.17 | 0.5 | 348 | 3.55 | |
| 14 X:49 | 1980 | 23.22 | 0.217 | 4.67 | 0.80 | 0.0 | X 369 → | 3.56 | |
| 14 X:54 | 2980 | 23.02 | 0.209 | 4.52 | 0.83 | 0.0 | 377 | NM | |
| 14:59 | 3980 | 23.63 | 0.205 | 4.49 | 0.52 | 0.0 | 382 | 3.56 | Pumped cyling 56 |
| 15:04 | 4980 | 23.72 | 0.208 | 4.50 | 0.43 | 0.0 | 385 | 3.56 | |

COMMENTS ON WELL RECOVERY/OTHER:

SAMPLE COLLECTION TIME: 15:06

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY: Adam Jenkins

ENVIRONMENTAL INTERNATIONAL CORPORATION

*Parameters are stabilized when 3 consec. readings are within ± 0.1 FOR Ph; ± 10% for Specific Conductivity and; Temperature is constant. Turbity must be below 10 NTU's.

Calculations of gallons of water in a length of pipe = [3.14x(pipe radius in feet)$^2$ xlength of waterx7.48]
A 1 foot length of water = 0.05 gallon in 1" DIA pipe, 0.17 gallon in 2" pipe, 0.65 gallon in 4" DIA pipe, 1.5 gallon in 6" pipe

24' of hose (tubing)
-5' intake 5.5' flow TOC
14:35 pump on at 5 speed
14:36 water reached flow thru cell

14:41 slowed speed to 3 speed at 520 mL
14:49 Pumped X980 1980 mL

# ATTACHMENT B

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-73799-1
Client Project/Site: GW Sampling PN #390010 / Savannah GA

For:
Environmental International Corporation
161 Kimball Bridge Rd.
Suite 100
Alpharetta, Georgia 30009

Attn: Mr. Alan Sanders

*Authorized for release by:*
*11/10/2011 6:03:18 PM*

Lidya Gulizia
Project Manager II
lidya.gulizia@testamericainc.com

LINKS

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Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Job ID: 680-73799-1

**Laboratory: TestAmerica Savannah**

**Narrative**

**Job Narrative**
**680-73799-1**

**Receipt**
All samples were received in good condition within temperature requirements.

**GC/MS VOA**
Method(s) 8260B: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for four analytes to recover outside criteria for this method when a full list spike is utilized. The LCS associated with batch 220123 had one analyte outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8260B: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 4 analytes to recover outside criteria for this method when a full list spike is utilized. The LCS/LCSD associated with batch 220251 each had 1 analyte outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8260B: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 4 analytes to recover outside criteria for this method when a full list spike is utilized. The LCS/LCSD associated with batch 220479 each had 1 analyte outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8260B: The method blank for batch 220479 contained 1,2,4-trichlorobenzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8260B: The continuing calibration verification (CCV) for analytical batch 220447 exceeded control limits for bromomethane. This compound has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Additionally, the samples associated with this CCV were previously analyzed at a lower dilution in a clock in which this analyte was within control criteria in the CCV, and it was not detected. Both sets of data have been reported.

Method(s) 8260B: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 4 analytes to recover outside criteria for this method when a full list spike is utilized. The LCS associated with batch 220477 had 1 analyte outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

No other analytical or quality issues were noted.

**Comments**
No additional comments.

# Sample Summary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 680-73799-1 | LAW-PZ-8 | Water | 10/26/11 19:35 | 10/27/11 10:00 |
| 680-73799-2 | PAN-MW-9 | Water | 10/26/11 18:11 | 10/27/11 10:00 |
| 680-73799-3 | PAN-MW-10 | Water | 10/26/11 18:59 | 10/27/11 10:00 |
| 680-73799-4 | MW-15 | Water | 10/26/11 13:38 | 10/27/11 10:00 |
| 680-73799-5 | MW-16 | Water | 10/26/11 09:51 | 10/27/11 10:00 |
| 680-73799-6 | MW-17R | Water | 10/26/11 17:55 | 10/27/11 10:00 |
| 680-73799-7 | MW-18R | Water | 10/26/11 14:47 | 10/27/11 10:00 |
| 680-73799-8 | MW-24 | Water | 10/26/11 15:34 | 10/27/11 10:00 |
| 680-73799-9 | MW-26R | Water | 10/26/11 11:45 | 10/27/11 10:00 |
| 680-73799-10 | MW-29 | Water | 10/26/11 16:13 | 10/27/11 10:00 |
| 680-73799-11 | MW-30 | Water | 10/26/11 10:48 | 10/27/11 10:00 |
| 680-73799-12 | MW-32 | Water | 10/25/11 17:04 | 10/27/11 10:00 |
| 680-73799-13 | MW-33 | Water | 10/25/11 17:10 | 10/27/11 10:00 |
| 680-73799-14 | MW-34 | Water | 10/25/11 15:06 | 10/27/11 10:00 |
| 680-73799-15 | Trip Blank | Water | 10/25/11 00:00 | 10/27/11 10:00 |

# Method Summary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL SAV |

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| E | Result exceeded calibration range. |
| D | Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D. |
| * | LCS or LCSD exceeds the control limits |
| B | Compound was found in the blank and sample. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ☼ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CNF | Contains no Free Liquid |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| EDL | Estimated Detection Limit |
| EPA | United States Environmental Protection Agency |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| RL | Reporting Limit |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

# Detection Summary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

## Client Sample ID: LAW-PZ-8 — Lab Sample ID: 680-73799-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 2000 | J | 2500 | 500 | ug/L | 100 | | 8260B | Total/NA |
| Benzene | 1600 | | 100 | 25 | ug/L | 100 | | 8260B | Total/NA |
| Chlorobenzene | 4500 | | 100 | 25 | ug/L | 100 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 550 | | 100 | 21 | ug/L | 100 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 310 | | 100 | 25 | ug/L | 100 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 1700 | | 100 | 28 | ug/L | 100 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 270 | | 100 | 11 | ug/L | 100 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 22000 | E | 100 | 15 | ug/L | 100 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 37 | J | 100 | 20 | ug/L | 100 | | 8260B | Total/NA |
| Ethylbenzene | 8000 | | 100 | 11 | ug/L | 100 | | 8260B | Total/NA |
| Isopropylbenzene | 130 | | 100 | 10 | ug/L | 100 | | 8260B | Total/NA |
| Methyl acetate | 50 | J | 100 | 19 | ug/L | 100 | | 8260B | Total/NA |
| Styrene | 610 | | 100 | 11 | ug/L | 100 | | 8260B | Total/NA |
| Tetrachloroethene | 150 | | 100 | 15 | ug/L | 100 | | 8260B | Total/NA |
| Toluene | 1100 | | 100 | 33 | ug/L | 100 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 420 | | 100 | 25 | ug/L | 100 | | 8260B | Total/NA |
| Trichloroethene | 28 | J | 100 | 13 | ug/L | 100 | | 8260B | Total/NA |
| Vinyl chloride | 1500 | | 100 | 18 | ug/L | 100 | | 8260B | Total/NA |
| Xylenes, Total | 73000 | | 200 | 20 | ug/L | 100 | | 8260B | Total/NA |
| Acetone - DL | 3000 | J D | 5000 | 1000 | ug/L | 200 | | 8260B | Total/NA |
| Benzene - DL | 1400 | D | 200 | 50 | ug/L | 200 | | 8260B | Total/NA |
| Chlorobenzene - DL | 4000 | D | 200 | 50 | ug/L | 200 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene - DL | 340 | D | 200 | 42 | ug/L | 200 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene - DL | 140 | J D | 200 | 50 | ug/L | 200 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene - DL | 970 | D | 200 | 56 | ug/L | 200 | | 8260B | Total/NA |
| 1,1-Dichloroethene - DL | 46 | J D | 200 | 22 | ug/L | 200 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene - DL | 22000 | D | 200 | 30 | ug/L | 200 | | 8260B | Total/NA |
| Ethylbenzene - DL | 7300 | D | 200 | 22 | ug/L | 200 | | 8260B | Total/NA |
| Isopropylbenzene - DL | 96 | J D | 200 | 20 | ug/L | 200 | | 8260B | Total/NA |
| Tetrachloroethene - DL | 100 | J D | 200 | 30 | ug/L | 200 | | 8260B | Total/NA |
| Toluene - DL | 960 | D | 200 | 66 | ug/L | 200 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene - DL | 320 | D | 200 | 50 | ug/L | 200 | | 8260B | Total/NA |
| Vinyl chloride - DL | 1400 | D | 200 | 36 | ug/L | 200 | | 8260B | Total/NA |
| Xylenes, Total - DL | 96000 | D | 400 | 40 | ug/L | 200 | | 8260B | Total/NA |

## Client Sample ID: PAN-MW-9 — Lab Sample ID: 680-73799-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 780 | | 50 | 7.5 | ug/L | 50 | | 8260B | Total/NA |
| Ethylbenzene | 1900 | | 50 | 5.5 | ug/L | 50 | | 8260B | Total/NA |
| Isopropylbenzene | 29 | J | 50 | 5.0 | ug/L | 50 | | 8260B | Total/NA |
| Tetrachloroethene | 350 | | 50 | 7.5 | ug/L | 50 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 13 | J | 50 | 13 | ug/L | 50 | | 8260B | Total/NA |
| Trichloroethene | 1100 | | 50 | 6.5 | ug/L | 50 | | 8260B | Total/NA |
| Vinyl chloride | 62 | | 50 | 9.0 | ug/L | 50 | | 8260B | Total/NA |
| Xylenes, Total | 4200 | | 100 | 10 | ug/L | 50 | | 8260B | Total/NA |

## Client Sample ID: PAN-MW-10 — Lab Sample ID: 680-73799-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 1.3 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 3.7 | | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| Methyl acetate | 0.45 | J | 1.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 0.79 | J | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: PAN-MW-10 (Continued)

Lab Sample ID: 680-73799-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Trichloroethene | 2.6 | | 1.0 | 0.13 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 9.9 | | 2.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-15

Lab Sample ID: 680-73799-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 150 | J | 500 | 100 | ug/L | 20 | | 8260B | Total/NA |
| Benzene | 36 | | 20 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| 2-Butanone | 100 | J | 200 | 20 | ug/L | 20 | | 8260B | Total/NA |
| Chlorobenzene | 170 | | 20 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 31 | | 20 | 4.2 | ug/L | 20 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 12 | J | 20 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 110 | | 20 | 5.6 | ug/L | 20 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 54 | | 20 | 2.2 | ug/L | 20 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 5100 | E | 20 | 3.0 | ug/L | 20 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 16 | J | 20 | 4.0 | ug/L | 20 | | 8260B | Total/NA |
| Ethylbenzene | 38 | | 20 | 2.2 | ug/L | 20 | | 8260B | Total/NA |
| Methyl acetate | 14 | J | 20 | 3.8 | ug/L | 20 | | 8260B | Total/NA |
| Tetrachloroethene | 55 | | 20 | 3.0 | ug/L | 20 | | 8260B | Total/NA |
| Toluene | 7.3 | J | 20 | 6.6 | ug/L | 20 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 26 | | 20 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| Trichloroethene | 58 | | 20 | 2.6 | ug/L | 20 | | 8260B | Total/NA |
| Vinyl chloride | 220 | | 20 | 3.6 | ug/L | 20 | | 8260B | Total/NA |
| Xylenes, Total | 93 | | 40 | 4.0 | ug/L | 20 | | 8260B | Total/NA |
| Benzene - DL | 27 | J D | 50 | 13 | ug/L | 50 | | 8260B | Total/NA |
| Chlorobenzene - DL | 120 | D | 50 | 13 | ug/L | 50 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene - DL | 16 | J D | 50 | 11 | ug/L | 50 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene - DL | 48 | J D | 50 | 14 | ug/L | 50 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene - DL | 4400 | D | 50 | 7.5 | ug/L | 50 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene - DL | 13 | J D | 50 | 10 | ug/L | 50 | | 8260B | Total/NA |
| Ethylbenzene - DL | 23 | J D | 50 | 5.5 | ug/L | 50 | | 8260B | Total/NA |
| Tetrachloroethene - DL | 37 | J D | 50 | 7.5 | ug/L | 50 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene - DL | 16 | J D | 50 | 13 | ug/L | 50 | | 8260B | Total/NA |
| Trichloroethene - DL | 43 | J D | 50 | 6.5 | ug/L | 50 | | 8260B | Total/NA |
| Vinyl chloride - DL | 190 | D | 50 | 9.0 | ug/L | 50 | | 8260B | Total/NA |
| Xylenes, Total - DL | 39 | J D | 100 | 10 | ug/L | 50 | | 8260B | Total/NA |

## Client Sample ID: MW-16

Lab Sample ID: 680-73799-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 34 | | 25 | 5.0 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 0.52 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 2.4 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 0.49 | J | 1.0 | 0.21 | ug/L | 1 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 1.5 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 2.8 | | 1.0 | 0.28 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 160 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 0.59 | J | 1.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 0.30 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| 2-Hexanone | 1.7 | J | 10 | 1.0 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 0.13 | J | 1.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| Methyl acetate | 19 | | 1.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 0.57 | J | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 0.58 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-16 (Continued) — Lab Sample ID: 680-73799-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Trichloroethene | 0.66 | J | 1.0 | 0.13 | ug/L | 1 | | 8260B | Total/NA |
| Vinyl chloride | 77 | | 1.0 | 0.18 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 1.9 | J | 2.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-17R — Lab Sample ID: 680-73799-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.39 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Carbon disulfide | 0.60 | J | 2.0 | 0.60 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 0.20 | J | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 0.55 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 28 | | 1.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-18R — Lab Sample ID: 680-73799-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 2.4 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 0.25 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-24 — Lab Sample ID: 680-73799-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 49 | J | 130 | 25 | ug/L | 5 | | 8260B | Total/NA |
| Benzene | 10 | | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| 2-Butanone | 29 | J | 50 | 5.0 | ug/L | 5 | | 8260B | Total/NA |
| Chlorobenzene | 3.2 | J | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 1.1 | J | 5.0 | 1.1 | ug/L | 5 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 1.3 | J | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 4.8 | J | 5.0 | 1.4 | ug/L | 5 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 180 | | 5.0 | 0.75 | ug/L | 5 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 1.3 | J | 5.0 | 1.0 | ug/L | 5 | | 8260B | Total/NA |
| Ethylbenzene | 1.4 | J | 5.0 | 0.55 | ug/L | 5 | | 8260B | Total/NA |
| Isopropylbenzene | 0.92 | J | 5.0 | 0.50 | ug/L | 5 | | 8260B | Total/NA |
| Methyl acetate | 6.0 | | 5.0 | 0.95 | ug/L | 5 | | 8260B | Total/NA |
| Methyl tert-butyl ether | 340 | | 50 | 1.0 | ug/L | 5 | | 8260B | Total/NA |
| Tetrachloroethene | 12 | | 5.0 | 0.75 | ug/L | 5 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 2.0 | J | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| Trichloroethene | 5.8 | | 5.0 | 0.65 | ug/L | 5 | | 8260B | Total/NA |
| Vinyl chloride | 25 | | 5.0 | 0.90 | ug/L | 5 | | 8260B | Total/NA |
| Xylenes, Total | 4.2 | J | 10 | 1.0 | ug/L | 5 | | 8260B | Total/NA |

## Client Sample ID: MW-26R — Lab Sample ID: 680-73799-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 7.2 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 70 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 4.6 | | 1.0 | 0.21 | ug/L | 1 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 5.7 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 21 | | 1.0 | 0.28 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 0.42 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 43 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 0.92 | J | 1.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 35 | | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 1.5 | | 1.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-26R (Continued)

## Lab Sample ID: 680-73799-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Toluene | 1.4 | | 1.0 | 0.33 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 1.0 | B * | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 0.89 | J | 1.0 | 0.13 | ug/L | 1 | | 8260B | Total/NA |
| Vinyl chloride | 34 | | 1.0 | 0.18 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 110 | | 2.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-29

## Lab Sample ID: 680-73799-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 170 | J | 500 | 100 | ug/L | 20 | | 8260B | Total/NA |
| 2-Butanone | 48 | J | 200 | 20 | ug/L | 20 | | 8260B | Total/NA |
| Chlorobenzene | 49 | | 20 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| Chloroform | 9.6 | J | 20 | 2.8 | ug/L | 20 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 32 | | 20 | 4.2 | ug/L | 20 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 44 | | 20 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 130 | | 20 | 5.6 | ug/L | 20 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 2300 | | 20 | 3.0 | ug/L | 20 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 5.1 | J | 20 | 4.0 | ug/L | 20 | | 8260B | Total/NA |
| Ethylbenzene | 1300 | | 20 | 2.2 | ug/L | 20 | | 8260B | Total/NA |
| Isopropylbenzene | 42 | | 20 | 2.0 | ug/L | 20 | | 8260B | Total/NA |
| Tetrachloroethene | 180 | | 20 | 3.0 | ug/L | 20 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 230 | B * | 20 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| Trichloroethene | 72 | | 20 | 2.6 | ug/L | 20 | | 8260B | Total/NA |
| Vinyl chloride | 220 | | 20 | 3.6 | ug/L | 20 | | 8260B | Total/NA |
| Xylenes, Total | 2800 | | 40 | 4.0 | ug/L | 20 | | 8260B | Total/NA |

## Client Sample ID: MW-30

## Lab Sample ID: 680-73799-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 5.1 | J | 25 | 5.0 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 0.55 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 2-Butanone | 2.6 | J | 10 | 1.0 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 2.9 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 0.21 | J | 1.0 | 0.21 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 0.75 | J | 1.0 | 0.28 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 13 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Methyl acetate | 3.0 | | 1.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 0.51 | J | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 0.96 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 0.55 | J | 1.0 | 0.13 | ug/L | 1 | | 8260B | Total/NA |
| Vinyl chloride | 2.9 | | 1.0 | 0.18 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-32

## Lab Sample ID: 680-73799-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | 4.2 | J | 10 | 2.5 | ug/L | 10 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 4.5 | J | 10 | 2.1 | ug/L | 10 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 6.5 | J | 10 | 2.5 | ug/L | 10 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 15 | | 10 | 2.8 | ug/L | 10 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 3.4 | J | 10 | 1.1 | ug/L | 10 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 1500 | | 10 | 1.5 | ug/L | 10 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 2.2 | J | 10 | 2.0 | ug/L | 10 | | 8260B | Total/NA |
| Ethylbenzene | 31 | | 10 | 1.1 | ug/L | 10 | | 8260B | Total/NA |
| Isopropylbenzene | 5.9 | J | 10 | 1.0 | ug/L | 10 | | 8260B | Total/NA |

# Detection Summary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

## Client Sample ID: MW-32 (Continued)

Lab Sample ID: 680-73799-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 7.2 | J | 10 | 1.5 | ug/L | 10 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 48 | * | 10 | 2.5 | ug/L | 10 | | 8260B | Total/NA |
| Trichloroethene | 11 | | 10 | 1.3 | ug/L | 10 | | 8260B | Total/NA |
| Vinyl chloride | 35 | | 10 | 1.8 | ug/L | 10 | | 8260B | Total/NA |
| Xylenes, Total | 35 | | 20 | 2.0 | ug/L | 10 | | 8260B | Total/NA |

## Client Sample ID: MW-33

Lab Sample ID: 680-73799-13

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | 170 | J | 200 | 50 | ug/L | 200 | | 8260B | Total/NA |
| Chloroform | 50 | J | 200 | 28 | ug/L | 200 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 260 | | 200 | 56 | ug/L | 200 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 44 | J | 200 | 22 | ug/L | 200 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 16000 | | 200 | 30 | ug/L | 200 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 45 | J | 200 | 40 | ug/L | 200 | | 8260B | Total/NA |
| Ethylbenzene | 370 | | 200 | 22 | ug/L | 200 | | 8260B | Total/NA |
| Tetrachloroethene | 5200 | | 200 | 30 | ug/L | 200 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 260 | * | 200 | 50 | ug/L | 200 | | 8260B | Total/NA |
| Trichloroethene | 3200 | | 200 | 26 | ug/L | 200 | | 8260B | Total/NA |
| Vinyl chloride | 840 | | 200 | 36 | ug/L | 200 | | 8260B | Total/NA |
| Xylenes, Total | 2200 | | 400 | 40 | ug/L | 200 | | 8260B | Total/NA |

## Client Sample ID: MW-34

Lab Sample ID: 680-73799-14

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 1.6 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 8.9 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 0.47 | J | 1.0 | 0.21 | ug/L | 1 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 0.35 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 2.3 | | 1.0 | 0.28 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 0.23 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 44 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 2.2 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 3.9 | * | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 1.7 | | 1.0 | 0.13 | ug/L | 1 | | 8260B | Total/NA |
| Vinyl chloride | 8.8 | | 1.0 | 0.18 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: Trip Blank

Lab Sample ID: 680-73799-15

No Detections

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: LAW-PZ-8**
**Date Collected: 10/26/11 19:35**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-1**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **2000** | **J** | 2500 | 500 | ug/L | | | 11/05/11 21:02 | 100 |
| **Benzene** | **1600** | | 100 | 25 | ug/L | | | 11/05/11 21:02 | 100 |
| Bromodichloromethane | <100 | | 100 | 25 | ug/L | | | 11/05/11 21:02 | 100 |
| Bromoform | <100 | | 100 | 50 | ug/L | | | 11/05/11 21:02 | 100 |
| Bromomethane | <100 | | 100 | 80 | ug/L | | | 11/05/11 21:02 | 100 |
| 2-Butanone | <1000 | | 1000 | 100 | ug/L | | | 11/05/11 21:02 | 100 |
| Carbon disulfide | <200 | | 200 | 60 | ug/L | | | 11/05/11 21:02 | 100 |
| Carbon tetrachloride | <100 | | 100 | 50 | ug/L | | | 11/05/11 21:02 | 100 |
| **Chlorobenzene** | **4500** | | 100 | 25 | ug/L | | | 11/05/11 21:02 | 100 |
| Chloroethane | <100 | | 100 | 100 | ug/L | | | 11/05/11 21:02 | 100 |
| Chloroform | <100 | | 100 | 14 | ug/L | | | 11/05/11 21:02 | 100 |
| Chloromethane | <100 | | 100 | 33 | ug/L | | | 11/05/11 21:02 | 100 |
| Cyclohexane | <100 | | 100 | 25 | ug/L | | | 11/05/11 21:02 | 100 |
| Dibromochloromethane | <100 | | 100 | 10 | ug/L | | | 11/05/11 21:02 | 100 |
| 1,2-Dibromo-3-Chloropropane | <100 | | 100 | 44 | ug/L | | | 11/05/11 21:02 | 100 |
| 1,2-Dibromoethane | <100 | | 100 | 25 | ug/L | | | 11/05/11 21:02 | 100 |
| **1,2-Dichlorobenzene** | **550** | | 100 | 21 | ug/L | | | 11/05/11 21:02 | 100 |
| **1,3-Dichlorobenzene** | **310** | | 100 | 25 | ug/L | | | 11/05/11 21:02 | 100 |
| **1,4-Dichlorobenzene** | **1700** | | 100 | 28 | ug/L | | | 11/05/11 21:02 | 100 |
| Dichlorodifluoromethane | <100 | | 100 | 25 | ug/L | | | 11/05/11 21:02 | 100 |
| 1,1-Dichloroethane | <100 | | 100 | 25 | ug/L | | | 11/05/11 21:02 | 100 |
| 1,2-Dichloroethane | <100 | | 100 | 10 | ug/L | | | 11/05/11 21:02 | 100 |
| **1,1-Dichloroethene** | **270** | | 100 | 11 | ug/L | | | 11/05/11 21:02 | 100 |
| **cis-1,2-Dichloroethene** | **22000** | **E** | 100 | 15 | ug/L | | | 11/05/11 21:02 | 100 |
| **trans-1,2-Dichloroethene** | **37** | **J** | 100 | 20 | ug/L | | | 11/05/11 21:02 | 100 |
| 1,2-Dichloropropane | <100 | | 100 | 13 | ug/L | | | 11/05/11 21:02 | 100 |
| cis-1,3-Dichloropropene | <100 | | 100 | 11 | ug/L | | | 11/05/11 21:02 | 100 |
| trans-1,3-Dichloropropene | <100 | | 100 | 21 | ug/L | | | 11/05/11 21:02 | 100 |
| **Ethylbenzene** | **8000** | | 100 | 11 | ug/L | | | 11/05/11 21:02 | 100 |
| 2-Hexanone | <1000 | | 1000 | 100 | ug/L | | | 11/05/11 21:02 | 100 |
| **Isopropylbenzene** | **130** | | 100 | 10 | ug/L | | | 11/05/11 21:02 | 100 |
| **Methyl acetate** | **50** | **J** | 100 | 19 | ug/L | | | 11/05/11 21:02 | 100 |
| Methylcyclohexane | <100 | | 100 | 10 | ug/L | | | 11/05/11 21:02 | 100 |
| Methylene Chloride | <500 | | 500 | 100 | ug/L | | | 11/05/11 21:02 | 100 |
| 4-Methyl-2-pentanone | <1000 | | 1000 | 100 | ug/L | | | 11/05/11 21:02 | 100 |
| Methyl tert-butyl ether | <1000 | | 1000 | 20 | ug/L | | | 11/05/11 21:02 | 100 |
| **Styrene** | **610** | | 100 | 11 | ug/L | | | 11/05/11 21:02 | 100 |
| 1,1,2,2-Tetrachloroethane | <100 | | 100 | 18 | ug/L | | | 11/05/11 21:02 | 100 |
| **Tetrachloroethene** | **150** | | 100 | 15 | ug/L | | | 11/05/11 21:02 | 100 |
| **Toluene** | **1100** | | 100 | 33 | ug/L | | | 11/05/11 21:02 | 100 |
| **1,2,4-Trichlorobenzene** | **420** | | 100 | 25 | ug/L | | | 11/05/11 21:02 | 100 |
| 1,1,1-Trichloroethane | <100 | | 100 | 50 | ug/L | | | 11/05/11 21:02 | 100 |
| 1,1,2-Trichloroethane | <100 | | 100 | 13 | ug/L | | | 11/05/11 21:02 | 100 |
| **Trichloroethene** | **28** | **J** | 100 | 13 | ug/L | | | 11/05/11 21:02 | 100 |
| Trichlorofluoromethane | <100 | | 100 | 25 | ug/L | | | 11/05/11 21:02 | 100 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <100 | | 100 | 50 | ug/L | | | 11/05/11 21:02 | 100 |
| **Vinyl chloride** | **1500** | | 100 | 18 | ug/L | | | 11/05/11 21:02 | 100 |
| **Xylenes, Total** | **73000** | | 200 | 20 | ug/L | | | 11/05/11 21:02 | 100 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: LAW-PZ-8**
**Date Collected: 10/26/11 19:35**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-1**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 113 | | 70 - 130 | | 11/05/11 21:02 | 100 |
| Toluene-d8 (Surr) | 115 | | 70 - 130 | | 11/05/11 21:02 | 100 |
| Dibromofluoromethane | 110 | | 70 - 130 | | 11/05/11 21:02 | 100 |

**Method: 8260B - Volatile Organic Compounds (GC/MS) - DL**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **3000** | **J D** | 5000 | 1000 | ug/L | | | 11/06/11 22:17 | 200 |
| **Benzene** | **1400** | **D** | 200 | 50 | ug/L | | | 11/06/11 22:17 | 200 |
| Bromodichloromethane | <200 | | 200 | 50 | ug/L | | | 11/06/11 22:17 | 200 |
| Bromoform | <200 | | 200 | 100 | ug/L | | | 11/06/11 22:17 | 200 |
| Bromomethane | <200 | * | 200 | 160 | ug/L | | | 11/06/11 22:17 | 200 |
| 2-Butanone | <2000 | | 2000 | 200 | ug/L | | | 11/06/11 22:17 | 200 |
| Carbon disulfide | <400 | | 400 | 120 | ug/L | | | 11/06/11 22:17 | 200 |
| Carbon tetrachloride | <200 | | 200 | 100 | ug/L | | | 11/06/11 22:17 | 200 |
| **Chlorobenzene** | **4000** | **D** | 200 | 50 | ug/L | | | 11/06/11 22:17 | 200 |
| Chloroethane | <200 | | 200 | 200 | ug/L | | | 11/06/11 22:17 | 200 |
| Chloroform | <200 | | 200 | 28 | ug/L | | | 11/06/11 22:17 | 200 |
| Chloromethane | <200 | | 200 | 66 | ug/L | | | 11/06/11 22:17 | 200 |
| Cyclohexane | <200 | | 200 | 50 | ug/L | | | 11/06/11 22:17 | 200 |
| Dibromochloromethane | <200 | | 200 | 20 | ug/L | | | 11/06/11 22:17 | 200 |
| 1,2-Dibromo-3-Chloropropane | <200 | | 200 | 88 | ug/L | | | 11/06/11 22:17 | 200 |
| 1,2-Dibromoethane | <200 | | 200 | 50 | ug/L | | | 11/06/11 22:17 | 200 |
| **1,2-Dichlorobenzene** | **340** | **D** | 200 | 42 | ug/L | | | 11/06/11 22:17 | 200 |
| **1,3-Dichlorobenzene** | **140** | **J D** | 200 | 50 | ug/L | | | 11/06/11 22:17 | 200 |
| **1,4-Dichlorobenzene** | **970** | **D** | 200 | 56 | ug/L | | | 11/06/11 22:17 | 200 |
| Dichlorodifluoromethane | <200 | | 200 | 50 | ug/L | | | 11/06/11 22:17 | 200 |
| 1,1-Dichloroethane | <200 | | 200 | 50 | ug/L | | | 11/06/11 22:17 | 200 |
| 1,2-Dichloroethane | <200 | | 200 | 20 | ug/L | | | 11/06/11 22:17 | 200 |
| **1,1-Dichloroethene** | **46** | **J D** | 200 | 22 | ug/L | | | 11/06/11 22:17 | 200 |
| **cis-1,2-Dichloroethene** | **22000** | **D** | 200 | 30 | ug/L | | | 11/06/11 22:17 | 200 |
| trans-1,2-Dichloroethene | <200 | | 200 | 40 | ug/L | | | 11/06/11 22:17 | 200 |
| 1,2-Dichloropropane | <200 | | 200 | 26 | ug/L | | | 11/06/11 22:17 | 200 |
| cis-1,3-Dichloropropene | <200 | | 200 | 22 | ug/L | | | 11/06/11 22:17 | 200 |
| trans-1,3-Dichloropropene | <200 | | 200 | 42 | ug/L | | | 11/06/11 22:17 | 200 |
| **Ethylbenzene** | **7300** | **D** | 200 | 22 | ug/L | | | 11/06/11 22:17 | 200 |
| 2-Hexanone | <2000 | | 2000 | 200 | ug/L | | | 11/06/11 22:17 | 200 |
| **Isopropylbenzene** | **96** | **J D** | 200 | 20 | ug/L | | | 11/06/11 22:17 | 200 |
| Methyl acetate | <200 | | 200 | 38 | ug/L | | | 11/06/11 22:17 | 200 |
| Methylcyclohexane | <200 | | 200 | 20 | ug/L | | | 11/06/11 22:17 | 200 |
| Methylene Chloride | <1000 | | 1000 | 200 | ug/L | | | 11/06/11 22:17 | 200 |
| 4-Methyl-2-pentanone | <2000 | | 2000 | 200 | ug/L | | | 11/06/11 22:17 | 200 |
| Methyl tert-butyl ether | <2000 | | 2000 | 40 | ug/L | | | 11/06/11 22:17 | 200 |
| Styrene | <200 | | 200 | 22 | ug/L | | | 11/06/11 22:17 | 200 |
| 1,1,2,2-Tetrachloroethane | <200 | | 200 | 36 | ug/L | | | 11/06/11 22:17 | 200 |
| **Tetrachloroethene** | **100** | **J D** | 200 | 30 | ug/L | | | 11/06/11 22:17 | 200 |
| **Toluene** | **960** | **D** | 200 | 66 | ug/L | | | 11/06/11 22:17 | 200 |
| **1,2,4-Trichlorobenzene** | **320** | **D** | 200 | 50 | ug/L | | | 11/06/11 22:17 | 200 |
| 1,1,1-Trichloroethane | <200 | | 200 | 100 | ug/L | | | 11/06/11 22:17 | 200 |
| 1,1,2-Trichloroethane | <200 | | 200 | 26 | ug/L | | | 11/06/11 22:17 | 200 |
| Trichloroethene | <200 | | 200 | 26 | ug/L | | | 11/06/11 22:17 | 200 |
| Trichlorofluoromethane | <200 | | 200 | 50 | ug/L | | | 11/06/11 22:17 | 200 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: LAW-PZ-8**
**Date Collected: 10/26/11 19:35**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-1**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS) - DL (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <200 | | 200 | 100 | ug/L | | | 11/06/11 22:17 | 200 |
| **Vinyl chloride** | **1400** | **D** | 200 | 36 | ug/L | | | 11/06/11 22:17 | 200 |
| **Xylenes, Total** | **96000** | **D** | 400 | 40 | ug/L | | | 11/06/11 22:17 | 200 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene* | *111* | | *70 - 130* | | *11/06/11 22:17* | *200* |
| *Toluene-d8 (Surr)* | *108* | | *70 - 130* | | *11/06/11 22:17* | *200* |
| *Dibromofluoromethane* | *101* | | *70 - 130* | | *11/06/11 22:17* | *200* |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: PAN-MW-9**
**Date Collected: 10/26/11 18:11**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-2**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <1300 | | 1300 | 250 | ug/L | | | 11/09/11 19:27 | 50 |
| Benzene | <50 | | 50 | 13 | ug/L | | | 11/09/11 19:27 | 50 |
| Bromodichloromethane | <50 | | 50 | 13 | ug/L | | | 11/09/11 19:27 | 50 |
| Bromoform | <50 | | 50 | 25 | ug/L | | | 11/09/11 19:27 | 50 |
| Bromomethane | <50 | | 50 | 40 | ug/L | | | 11/09/11 19:27 | 50 |
| 2-Butanone | <500 | | 500 | 50 | ug/L | | | 11/09/11 19:27 | 50 |
| Carbon disulfide | <100 | | 100 | 30 | ug/L | | | 11/09/11 19:27 | 50 |
| Carbon tetrachloride | <50 | | 50 | 25 | ug/L | | | 11/09/11 19:27 | 50 |
| Chlorobenzene | <50 | | 50 | 13 | ug/L | | | 11/09/11 19:27 | 50 |
| Chloroethane | <50 | | 50 | 50 | ug/L | | | 11/09/11 19:27 | 50 |
| Chloroform | <50 | | 50 | 7.0 | ug/L | | | 11/09/11 19:27 | 50 |
| Chloromethane | <50 | | 50 | 17 | ug/L | | | 11/09/11 19:27 | 50 |
| Cyclohexane | <50 | | 50 | 13 | ug/L | | | 11/09/11 19:27 | 50 |
| Dibromochloromethane | <50 | | 50 | 5.0 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,2-Dibromo-3-Chloropropane | <50 | | 50 | 22 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,2-Dibromoethane | <50 | | 50 | 13 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,2-Dichlorobenzene | <50 | | 50 | 11 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,3-Dichlorobenzene | <50 | | 50 | 13 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,4-Dichlorobenzene | <50 | | 50 | 14 | ug/L | | | 11/09/11 19:27 | 50 |
| Dichlorodifluoromethane | <50 | | 50 | 13 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,1-Dichloroethane | <50 | | 50 | 13 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,2-Dichloroethane | <50 | | 50 | 5.0 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,1-Dichloroethene | <50 | | 50 | 5.5 | ug/L | | | 11/09/11 19:27 | 50 |
| **cis-1,2-Dichloroethene** | **780** | | 50 | 7.5 | ug/L | | | 11/09/11 19:27 | 50 |
| trans-1,2-Dichloroethene | <50 | | 50 | 10 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,2-Dichloropropane | <50 | | 50 | 6.5 | ug/L | | | 11/09/11 19:27 | 50 |
| cis-1,3-Dichloropropene | <50 | | 50 | 5.5 | ug/L | | | 11/09/11 19:27 | 50 |
| trans-1,3-Dichloropropene | <50 | | 50 | 11 | ug/L | | | 11/09/11 19:27 | 50 |
| **Ethylbenzene** | **1900** | | 50 | 5.5 | ug/L | | | 11/09/11 19:27 | 50 |
| 2-Hexanone | <500 | | 500 | 50 | ug/L | | | 11/09/11 19:27 | 50 |
| **Isopropylbenzene** | **29** | **J** | 50 | 5.0 | ug/L | | | 11/09/11 19:27 | 50 |
| Methyl acetate | <50 | | 50 | 9.5 | ug/L | | | 11/09/11 19:27 | 50 |
| Methylcyclohexane | <50 | | 50 | 5.0 | ug/L | | | 11/09/11 19:27 | 50 |
| Methylene Chloride | <250 | | 250 | 50 | ug/L | | | 11/09/11 19:27 | 50 |
| 4-Methyl-2-pentanone | <500 | | 500 | 50 | ug/L | | | 11/09/11 19:27 | 50 |
| Methyl tert-butyl ether | <500 | | 500 | 10 | ug/L | | | 11/09/11 19:27 | 50 |
| Styrene | <50 | | 50 | 5.5 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,1,2,2-Tetrachloroethane | <50 | | 50 | 9.0 | ug/L | | | 11/09/11 19:27 | 50 |
| **Tetrachloroethene** | **350** | | 50 | 7.5 | ug/L | | | 11/09/11 19:27 | 50 |
| Toluene | <50 | | 50 | 17 | ug/L | | | 11/09/11 19:27 | 50 |
| **1,2,4-Trichlorobenzene** | **13** | **J** | 50 | 13 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,1,1-Trichloroethane | <50 | | 50 | 25 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,1,2-Trichloroethane | <50 | | 50 | 6.5 | ug/L | | | 11/09/11 19:27 | 50 |
| **Trichloroethene** | **1100** | | 50 | 6.5 | ug/L | | | 11/09/11 19:27 | 50 |
| Trichlorofluoromethane | <50 | | 50 | 13 | ug/L | | | 11/09/11 19:27 | 50 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <50 | | 50 | 25 | ug/L | | | 11/09/11 19:27 | 50 |
| **Vinyl chloride** | **62** | | 50 | 9.0 | ug/L | | | 11/09/11 19:27 | 50 |
| **Xylenes, Total** | **4200** | | 100 | 10 | ug/L | | | 11/09/11 19:27 | 50 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: PAN-MW-9**
**Date Collected: 10/26/11 18:11**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-2**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 106 | | 70 - 130 | | 11/09/11 19:27 | 50 |
| Toluene-d8 (Surr) | 104 | | 70 - 130 | | 11/09/11 19:27 | 50 |
| Dibromofluoromethane | 104 | | 70 - 130 | | 11/09/11 19:27 | 50 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: PAN-MW-10**
**Date Collected: 10/26/11 18:59**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-3**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/05/11 20:16 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:16 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:16 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:16 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/05/11 20:16 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 20:16 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/05/11 20:16 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:16 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:16 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/05/11 20:16 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/05/11 20:16 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/05/11 20:16 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:16 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/05/11 20:16 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 20:16 | 1 |
| **cis-1,2-Dichloroethene** | **1.3** | | 1.0 | 0.15 | ug/L | | | 11/05/11 20:16 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 20:16 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 20:16 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/05/11 20:16 | 1 |
| **Ethylbenzene** | **3.7** | | 1.0 | 0.11 | ug/L | | | 11/05/11 20:16 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 20:16 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 20:16 | 1 |
| **Methyl acetate** | **0.45** | **J** | 1.0 | 0.19 | ug/L | | | 11/05/11 20:16 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 20:16 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/05/11 20:16 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 20:16 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/05/11 20:16 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/05/11 20:16 | 1 |
| **Tetrachloroethene** | **0.79** | **J** | 1.0 | 0.15 | ug/L | | | 11/05/11 20:16 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 20:16 | 1 |
| **Trichloroethene** | **2.6** | | 1.0 | 0.13 | ug/L | | | 11/05/11 20:16 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:16 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:16 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/05/11 20:16 | 1 |
| **Xylenes, Total** | **9.9** | | 2.0 | 0.20 | ug/L | | | 11/05/11 20:16 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: PAN-MW-10**
**Date Collected: 10/26/11 18:59**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-3**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 111 | | 70 - 130 | | 11/05/11 20:16 | 1 |
| Toluene-d8 (Surr) | 110 | | 70 - 130 | | 11/05/11 20:16 | 1 |
| Dibromofluoromethane | 108 | | 70 - 130 | | 11/05/11 20:16 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-15**
**Date Collected: 10/26/11 13:38**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-4**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **150** | **J** | 500 | 100 | ug/L | | | 11/05/11 21:48 | 20 |
| **Benzene** | **36** | | 20 | 5.0 | ug/L | | | 11/05/11 21:48 | 20 |
| Bromodichloromethane | <20 | | 20 | 5.0 | ug/L | | | 11/05/11 21:48 | 20 |
| Bromoform | <20 | | 20 | 10 | ug/L | | | 11/05/11 21:48 | 20 |
| Bromomethane | <20 | | 20 | 16 | ug/L | | | 11/05/11 21:48 | 20 |
| **2-Butanone** | **100** | **J** | 200 | 20 | ug/L | | | 11/05/11 21:48 | 20 |
| Carbon disulfide | <40 | | 40 | 12 | ug/L | | | 11/05/11 21:48 | 20 |
| Carbon tetrachloride | <20 | | 20 | 10 | ug/L | | | 11/05/11 21:48 | 20 |
| **Chlorobenzene** | **170** | | 20 | 5.0 | ug/L | | | 11/05/11 21:48 | 20 |
| Chloroethane | <20 | | 20 | 20 | ug/L | | | 11/05/11 21:48 | 20 |
| Chloroform | <20 | | 20 | 2.8 | ug/L | | | 11/05/11 21:48 | 20 |
| Chloromethane | <20 | | 20 | 6.6 | ug/L | | | 11/05/11 21:48 | 20 |
| Cyclohexane | <20 | | 20 | 5.0 | ug/L | | | 11/05/11 21:48 | 20 |
| Dibromochloromethane | <20 | | 20 | 2.0 | ug/L | | | 11/05/11 21:48 | 20 |
| 1,2-Dibromo-3-Chloropropane | <20 | | 20 | 8.8 | ug/L | | | 11/05/11 21:48 | 20 |
| 1,2-Dibromoethane | <20 | | 20 | 5.0 | ug/L | | | 11/05/11 21:48 | 20 |
| **1,2-Dichlorobenzene** | **31** | | 20 | 4.2 | ug/L | | | 11/05/11 21:48 | 20 |
| **1,3-Dichlorobenzene** | **12** | **J** | 20 | 5.0 | ug/L | | | 11/05/11 21:48 | 20 |
| **1,4-Dichlorobenzene** | **110** | | 20 | 5.6 | ug/L | | | 11/05/11 21:48 | 20 |
| Dichlorodifluoromethane | <20 | | 20 | 5.0 | ug/L | | | 11/05/11 21:48 | 20 |
| 1,1-Dichloroethane | <20 | | 20 | 5.0 | ug/L | | | 11/05/11 21:48 | 20 |
| 1,2-Dichloroethane | <20 | | 20 | 2.0 | ug/L | | | 11/05/11 21:48 | 20 |
| **1,1-Dichloroethene** | **54** | | 20 | 2.2 | ug/L | | | 11/05/11 21:48 | 20 |
| **cis-1,2-Dichloroethene** | **5100** | **E** | 20 | 3.0 | ug/L | | | 11/05/11 21:48 | 20 |
| **trans-1,2-Dichloroethene** | **16** | **J** | 20 | 4.0 | ug/L | | | 11/05/11 21:48 | 20 |
| 1,2-Dichloropropane | <20 | | 20 | 2.6 | ug/L | | | 11/05/11 21:48 | 20 |
| cis-1,3-Dichloropropene | <20 | | 20 | 2.2 | ug/L | | | 11/05/11 21:48 | 20 |
| trans-1,3-Dichloropropene | <20 | | 20 | 4.2 | ug/L | | | 11/05/11 21:48 | 20 |
| **Ethylbenzene** | **38** | | 20 | 2.2 | ug/L | | | 11/05/11 21:48 | 20 |
| 2-Hexanone | <200 | | 200 | 20 | ug/L | | | 11/05/11 21:48 | 20 |
| Isopropylbenzene | <20 | | 20 | 2.0 | ug/L | | | 11/05/11 21:48 | 20 |
| **Methyl acetate** | **14** | **J** | 20 | 3.8 | ug/L | | | 11/05/11 21:48 | 20 |
| Methylcyclohexane | <20 | | 20 | 2.0 | ug/L | | | 11/05/11 21:48 | 20 |
| Methylene Chloride | <100 | | 100 | 20 | ug/L | | | 11/05/11 21:48 | 20 |
| 4-Methyl-2-pentanone | <200 | | 200 | 20 | ug/L | | | 11/05/11 21:48 | 20 |
| Methyl tert-butyl ether | <200 | | 200 | 4.0 | ug/L | | | 11/05/11 21:48 | 20 |
| Styrene | <20 | | 20 | 2.2 | ug/L | | | 11/05/11 21:48 | 20 |
| 1,1,2,2-Tetrachloroethane | <20 | | 20 | 3.6 | ug/L | | | 11/05/11 21:48 | 20 |
| **Tetrachloroethene** | **55** | | 20 | 3.0 | ug/L | | | 11/05/11 21:48 | 20 |
| **Toluene** | **7.3** | **J** | 20 | 6.6 | ug/L | | | 11/05/11 21:48 | 20 |
| **1,2,4-Trichlorobenzene** | **26** | | 20 | 5.0 | ug/L | | | 11/05/11 21:48 | 20 |
| 1,1,1-Trichloroethane | <20 | | 20 | 10 | ug/L | | | 11/05/11 21:48 | 20 |
| 1,1,2-Trichloroethane | <20 | | 20 | 2.6 | ug/L | | | 11/05/11 21:48 | 20 |
| **Trichloroethene** | **58** | | 20 | 2.6 | ug/L | | | 11/05/11 21:48 | 20 |
| Trichlorofluoromethane | <20 | | 20 | 5.0 | ug/L | | | 11/05/11 21:48 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <20 | | 20 | 10 | ug/L | | | 11/05/11 21:48 | 20 |
| **Vinyl chloride** | **220** | | 20 | 3.6 | ug/L | | | 11/05/11 21:48 | 20 |
| **Xylenes, Total** | **93** | | 40 | 4.0 | ug/L | | | 11/05/11 21:48 | 20 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-15**
**Date Collected: 10/26/11 13:38**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-4**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 115 | | 70 - 130 | | 11/05/11 21:48 | 20 |
| Toluene-d8 (Surr) | 112 | | 70 - 130 | | 11/05/11 21:48 | 20 |
| Dibromofluoromethane | 105 | | 70 - 130 | | 11/05/11 21:48 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <1300 | | 1300 | 250 | ug/L | | | 11/06/11 21:48 | 50 |
| **Benzene** | **27** | **J D** | 50 | 13 | ug/L | | | 11/06/11 21:48 | 50 |
| Bromodichloromethane | <50 | | 50 | 13 | ug/L | | | 11/06/11 21:48 | 50 |
| Bromoform | <50 | | 50 | 25 | ug/L | | | 11/06/11 21:48 | 50 |
| Bromomethane | <50 | * | 50 | 40 | ug/L | | | 11/06/11 21:48 | 50 |
| 2-Butanone | <500 | | 500 | 50 | ug/L | | | 11/06/11 21:48 | 50 |
| Carbon disulfide | <100 | | 100 | 30 | ug/L | | | 11/06/11 21:48 | 50 |
| Carbon tetrachloride | <50 | | 50 | 25 | ug/L | | | 11/06/11 21:48 | 50 |
| **Chlorobenzene** | **120** | **D** | 50 | 13 | ug/L | | | 11/06/11 21:48 | 50 |
| Chloroethane | <50 | | 50 | 50 | ug/L | | | 11/06/11 21:48 | 50 |
| Chloroform | <50 | | 50 | 7.0 | ug/L | | | 11/06/11 21:48 | 50 |
| Chloromethane | <50 | | 50 | 17 | ug/L | | | 11/06/11 21:48 | 50 |
| Cyclohexane | <50 | | 50 | 13 | ug/L | | | 11/06/11 21:48 | 50 |
| Dibromochloromethane | <50 | | 50 | 5.0 | ug/L | | | 11/06/11 21:48 | 50 |
| 1,2-Dibromo-3-Chloropropane | <50 | | 50 | 22 | ug/L | | | 11/06/11 21:48 | 50 |
| 1,2-Dibromoethane | <50 | | 50 | 13 | ug/L | | | 11/06/11 21:48 | 50 |
| **1,2-Dichlorobenzene** | **16** | **J D** | 50 | 11 | ug/L | | | 11/06/11 21:48 | 50 |
| 1,3-Dichlorobenzene | <50 | | 50 | 13 | ug/L | | | 11/06/11 21:48 | 50 |
| **1,4-Dichlorobenzene** | **48** | **J D** | 50 | 14 | ug/L | | | 11/06/11 21:48 | 50 |
| Dichlorodifluoromethane | <50 | | 50 | 13 | ug/L | | | 11/06/11 21:48 | 50 |
| 1,1-Dichloroethane | <50 | | 50 | 13 | ug/L | | | 11/06/11 21:48 | 50 |
| 1,2-Dichloroethane | <50 | | 50 | 5.0 | ug/L | | | 11/06/11 21:48 | 50 |
| 1,1-Dichloroethene | <50 | | 50 | 5.5 | ug/L | | | 11/06/11 21:48 | 50 |
| **cis-1,2-Dichloroethene** | **4400** | **D** | 50 | 7.5 | ug/L | | | 11/06/11 21:48 | 50 |
| **trans-1,2-Dichloroethene** | **13** | **J D** | 50 | 10 | ug/L | | | 11/06/11 21:48 | 50 |
| 1,2-Dichloropropane | <50 | | 50 | 6.5 | ug/L | | | 11/06/11 21:48 | 50 |
| cis-1,3-Dichloropropene | <50 | | 50 | 5.5 | ug/L | | | 11/06/11 21:48 | 50 |
| trans-1,3-Dichloropropene | <50 | | 50 | 11 | ug/L | | | 11/06/11 21:48 | 50 |
| **Ethylbenzene** | **23** | **J D** | 50 | 5.5 | ug/L | | | 11/06/11 21:48 | 50 |
| 2-Hexanone | <500 | | 500 | 50 | ug/L | | | 11/06/11 21:48 | 50 |
| Isopropylbenzene | <50 | | 50 | 5.0 | ug/L | | | 11/06/11 21:48 | 50 |
| Methyl acetate | <50 | | 50 | 9.5 | ug/L | | | 11/06/11 21:48 | 50 |
| Methylcyclohexane | <50 | | 50 | 5.0 | ug/L | | | 11/06/11 21:48 | 50 |
| Methylene Chloride | <250 | | 250 | 50 | ug/L | | | 11/06/11 21:48 | 50 |
| 4-Methyl-2-pentanone | <500 | | 500 | 50 | ug/L | | | 11/06/11 21:48 | 50 |
| Methyl tert-butyl ether | <500 | | 500 | 10 | ug/L | | | 11/06/11 21:48 | 50 |
| Styrene | <50 | | 50 | 5.5 | ug/L | | | 11/06/11 21:48 | 50 |
| 1,1,2,2-Tetrachloroethane | <50 | | 50 | 9.0 | ug/L | | | 11/06/11 21:48 | 50 |
| **Tetrachloroethene** | **37** | **J D** | 50 | 7.5 | ug/L | | | 11/06/11 21:48 | 50 |
| Toluene | <50 | | 50 | 17 | ug/L | | | 11/06/11 21:48 | 50 |
| **1,2,4-Trichlorobenzene** | **16** | **J D** | 50 | 13 | ug/L | | | 11/06/11 21:48 | 50 |
| 1,1,1-Trichloroethane | <50 | | 50 | 25 | ug/L | | | 11/06/11 21:48 | 50 |
| 1,1,2-Trichloroethane | <50 | | 50 | 6.5 | ug/L | | | 11/06/11 21:48 | 50 |
| **Trichloroethene** | **43** | **J D** | 50 | 6.5 | ug/L | | | 11/06/11 21:48 | 50 |
| Trichlorofluoromethane | <50 | | 50 | 13 | ug/L | | | 11/06/11 21:48 | 50 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-15**
**Date Collected: 10/26/11 13:38**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-4**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS) - DL (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <50 | | 50 | 25 | ug/L | | | 11/06/11 21:48 | 50 |
| **Vinyl chloride** | **190** | **D** | 50 | 9.0 | ug/L | | | 11/06/11 21:48 | 50 |
| **Xylenes, Total** | **39** | **J D** | 100 | 10 | ug/L | | | 11/06/11 21:48 | 50 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene* | *104* | | *70 - 130* | | *11/06/11 21:48* | *50* |
| *Toluene-d8 (Surr)* | *108* | | *70 - 130* | | *11/06/11 21:48* | *50* |
| *Dibromofluoromethane* | *102* | | *70 - 130* | | *11/06/11 21:48* | *50* |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-16**
**Date Collected: 10/26/11 09:51**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-5**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **34** | | 25 | 5.0 | ug/L | | | 11/05/11 20:39 | 1 |
| **Benzene** | **0.52** | **J** | 1.0 | 0.25 | ug/L | | | 11/05/11 20:39 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:39 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:39 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/05/11 20:39 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 20:39 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/05/11 20:39 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:39 | 1 |
| **Chlorobenzene** | **2.4** | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:39 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/05/11 20:39 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/05/11 20:39 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/05/11 20:39 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:39 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 20:39 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/05/11 20:39 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:39 | 1 |
| **1,2-Dichlorobenzene** | **0.49** | **J** | 1.0 | 0.21 | ug/L | | | 11/05/11 20:39 | 1 |
| **1,3-Dichlorobenzene** | **1.5** | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:39 | 1 |
| **1,4-Dichlorobenzene** | **2.8** | | 1.0 | 0.28 | ug/L | | | 11/05/11 20:39 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:39 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:39 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 20:39 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 20:39 | 1 |
| **cis-1,2-Dichloroethene** | **160** | | 1.0 | 0.15 | ug/L | | | 11/05/11 20:39 | 1 |
| **trans-1,2-Dichloroethene** | **0.59** | **J** | 1.0 | 0.20 | ug/L | | | 11/05/11 20:39 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 20:39 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 20:39 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/05/11 20:39 | 1 |
| **Ethylbenzene** | **0.30** | **J** | 1.0 | 0.11 | ug/L | | | 11/05/11 20:39 | 1 |
| **2-Hexanone** | **1.7** | **J** | 10 | 1.0 | ug/L | | | 11/05/11 20:39 | 1 |
| **Isopropylbenzene** | **0.13** | **J** | 1.0 | 0.10 | ug/L | | | 11/05/11 20:39 | 1 |
| **Methyl acetate** | **19** | | 1.0 | 0.19 | ug/L | | | 11/05/11 20:39 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 20:39 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/05/11 20:39 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 20:39 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/05/11 20:39 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 20:39 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/05/11 20:39 | 1 |
| **Tetrachloroethene** | **0.57** | **J** | 1.0 | 0.15 | ug/L | | | 11/05/11 20:39 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/05/11 20:39 | 1 |
| **1,2,4-Trichlorobenzene** | **0.58** | **J** | 1.0 | 0.25 | ug/L | | | 11/05/11 20:39 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:39 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 20:39 | 1 |
| **Trichloroethene** | **0.66** | **J** | 1.0 | 0.13 | ug/L | | | 11/05/11 20:39 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:39 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:39 | 1 |
| **Vinyl chloride** | **77** | | 1.0 | 0.18 | ug/L | | | 11/05/11 20:39 | 1 |
| **Xylenes, Total** | **1.9** | **J** | 2.0 | 0.20 | ug/L | | | 11/05/11 20:39 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-16**
**Date Collected: 10/26/11 09:51**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-5**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 112 | | 70 - 130 | | 11/05/11 20:39 | 1 |
| Toluene-d8 (Surr) | 109 | | 70 - 130 | | 11/05/11 20:39 | 1 |
| Dibromofluoromethane | 113 | | 70 - 130 | | 11/05/11 20:39 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-17R**
**Date Collected: 10/26/11 17:55**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-6**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/09/11 17:52 | 1 |
| **Benzene** | **0.39** | **J** | 1.0 | 0.25 | ug/L | | | 11/09/11 17:52 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 17:52 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 17:52 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/09/11 17:52 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 17:52 | 1 |
| **Carbon disulfide** | **0.60** | **J** | 2.0 | 0.60 | ug/L | | | 11/09/11 17:52 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 17:52 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 17:52 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/09/11 17:52 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/09/11 17:52 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/09/11 17:52 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 17:52 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/09/11 17:52 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 17:52 | 1 |
| **cis-1,2-Dichloroethene** | **0.20** | **J** | 1.0 | 0.15 | ug/L | | | 11/09/11 17:52 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 17:52 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 17:52 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/09/11 17:52 | 1 |
| **Ethylbenzene** | **0.55** | **J** | 1.0 | 0.11 | ug/L | | | 11/09/11 17:52 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 17:52 | 1 |
| **Isopropylbenzene** | **28** | | 1.0 | 0.10 | ug/L | | | 11/09/11 17:52 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/09/11 17:52 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 17:52 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/09/11 17:52 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 17:52 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/09/11 17:52 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/09/11 17:52 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/09/11 17:52 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | * | 1.0 | 0.25 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 17:52 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 17:52 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 17:52 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 17:52 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/09/11 17:52 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/09/11 17:52 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-17R**
**Date Collected: 10/26/11 17:55**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-6**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 93 | | 70 - 130 | | 11/09/11 17:52 | 1 |
| Toluene-d8 (Surr) | 103 | | 70 - 130 | | 11/09/11 17:52 | 1 |
| Dibromofluoromethane | 99 | | 70 - 130 | | 11/09/11 17:52 | 1 |

**Client Sample ID: MW-18R**
**Date Collected: 10/26/11 14:47**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-7**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/07/11 06:27 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 06:27 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 06:27 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 06:27 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/07/11 06:27 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/07/11 06:27 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/07/11 06:27 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 06:27 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 06:27 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/07/11 06:27 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/07/11 06:27 | 1 |
| Chloromethane | <1.0 | * | 1.0 | 0.33 | ug/L | | | 11/07/11 06:27 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 06:27 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/07/11 06:27 | 1 |
| **Dichlorodifluoromethane** | **2.4** | | 1.0 | 0.25 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 06:27 | 1 |
| **1,1-Dichloroethene** | **0.25** | **J** | 1.0 | 0.11 | ug/L | | | 11/07/11 06:27 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/07/11 06:27 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/07/11 06:27 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/07/11 06:27 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/07/11 06:27 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/07/11 06:27 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/07/11 06:27 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 06:27 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/07/11 06:27 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 06:27 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/07/11 06:27 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/07/11 06:27 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/07/11 06:27 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/07/11 06:27 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/07/11 06:27 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/07/11 06:27 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/07/11 06:27 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 06:27 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 06:27 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/07/11 06:27 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/07/11 06:27 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-18R**
**Date Collected: 10/26/11 14:47**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-7**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 100 | | 70 - 130 | | 11/07/11 06:27 | 1 |
| Toluene-d8 (Surr) | 102 | | 70 - 130 | | 11/07/11 06:27 | 1 |
| Dibromofluoromethane | 97 | | 70 - 130 | | 11/07/11 06:27 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-24**
**Date Collected: 10/26/11 15:34**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-8**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **49** | **J** | 130 | 25 | ug/L | | | 11/07/11 06:54 | 5 |
| **Benzene** | **10** | | 5.0 | 1.3 | ug/L | | | 11/07/11 06:54 | 5 |
| Bromodichloromethane | <5.0 | | 5.0 | 1.3 | ug/L | | | 11/07/11 06:54 | 5 |
| Bromoform | <5.0 | | 5.0 | 2.5 | ug/L | | | 11/07/11 06:54 | 5 |
| Bromomethane | <5.0 | | 5.0 | 4.0 | ug/L | | | 11/07/11 06:54 | 5 |
| **2-Butanone** | **29** | **J** | 50 | 5.0 | ug/L | | | 11/07/11 06:54 | 5 |
| Carbon disulfide | <10 | | 10 | 3.0 | ug/L | | | 11/07/11 06:54 | 5 |
| Carbon tetrachloride | <5.0 | | 5.0 | 2.5 | ug/L | | | 11/07/11 06:54 | 5 |
| **Chlorobenzene** | **3.2** | **J** | 5.0 | 1.3 | ug/L | | | 11/07/11 06:54 | 5 |
| Chloroethane | <5.0 | | 5.0 | 5.0 | ug/L | | | 11/07/11 06:54 | 5 |
| Chloroform | <5.0 | | 5.0 | 0.70 | ug/L | | | 11/07/11 06:54 | 5 |
| Chloromethane | <5.0 | * | 5.0 | 1.7 | ug/L | | | 11/07/11 06:54 | 5 |
| Cyclohexane | <5.0 | | 5.0 | 1.3 | ug/L | | | 11/07/11 06:54 | 5 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.50 | ug/L | | | 11/07/11 06:54 | 5 |
| 1,2-Dibromo-3-Chloropropane | <5.0 | | 5.0 | 2.2 | ug/L | | | 11/07/11 06:54 | 5 |
| 1,2-Dibromoethane | <5.0 | | 5.0 | 1.3 | ug/L | | | 11/07/11 06:54 | 5 |
| **1,2-Dichlorobenzene** | **1.1** | **J** | 5.0 | 1.1 | ug/L | | | 11/07/11 06:54 | 5 |
| **1,3-Dichlorobenzene** | **1.3** | **J** | 5.0 | 1.3 | ug/L | | | 11/07/11 06:54 | 5 |
| **1,4-Dichlorobenzene** | **4.8** | **J** | 5.0 | 1.4 | ug/L | | | 11/07/11 06:54 | 5 |
| Dichlorodifluoromethane | <5.0 | | 5.0 | 1.3 | ug/L | | | 11/07/11 06:54 | 5 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 1.3 | ug/L | | | 11/07/11 06:54 | 5 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.50 | ug/L | | | 11/07/11 06:54 | 5 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.55 | ug/L | | | 11/07/11 06:54 | 5 |
| **cis-1,2-Dichloroethene** | **180** | | 5.0 | 0.75 | ug/L | | | 11/07/11 06:54 | 5 |
| **trans-1,2-Dichloroethene** | **1.3** | **J** | 5.0 | 1.0 | ug/L | | | 11/07/11 06:54 | 5 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.65 | ug/L | | | 11/07/11 06:54 | 5 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.55 | ug/L | | | 11/07/11 06:54 | 5 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 1.1 | ug/L | | | 11/07/11 06:54 | 5 |
| **Ethylbenzene** | **1.4** | **J** | 5.0 | 0.55 | ug/L | | | 11/07/11 06:54 | 5 |
| 2-Hexanone | <50 | | 50 | 5.0 | ug/L | | | 11/07/11 06:54 | 5 |
| **Isopropylbenzene** | **0.92** | **J** | 5.0 | 0.50 | ug/L | | | 11/07/11 06:54 | 5 |
| **Methyl acetate** | **6.0** | | 5.0 | 0.95 | ug/L | | | 11/07/11 06:54 | 5 |
| Methylcyclohexane | <5.0 | | 5.0 | 0.50 | ug/L | | | 11/07/11 06:54 | 5 |
| Methylene Chloride | <25 | | 25 | 5.0 | ug/L | | | 11/07/11 06:54 | 5 |
| 4-Methyl-2-pentanone | <50 | | 50 | 5.0 | ug/L | | | 11/07/11 06:54 | 5 |
| **Methyl tert-butyl ether** | **340** | | 50 | 1.0 | ug/L | | | 11/07/11 06:54 | 5 |
| Styrene | <5.0 | | 5.0 | 0.55 | ug/L | | | 11/07/11 06:54 | 5 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.90 | ug/L | | | 11/07/11 06:54 | 5 |
| **Tetrachloroethene** | **12** | | 5.0 | 0.75 | ug/L | | | 11/07/11 06:54 | 5 |
| Toluene | <5.0 | | 5.0 | 1.7 | ug/L | | | 11/07/11 06:54 | 5 |
| **1,2,4-Trichlorobenzene** | **2.0** | **J** | 5.0 | 1.3 | ug/L | | | 11/07/11 06:54 | 5 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 2.5 | ug/L | | | 11/07/11 06:54 | 5 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.65 | ug/L | | | 11/07/11 06:54 | 5 |
| **Trichloroethene** | **5.8** | | 5.0 | 0.65 | ug/L | | | 11/07/11 06:54 | 5 |
| Trichlorofluoromethane | <5.0 | | 5.0 | 1.3 | ug/L | | | 11/07/11 06:54 | 5 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <5.0 | | 5.0 | 2.5 | ug/L | | | 11/07/11 06:54 | 5 |
| **Vinyl chloride** | **25** | | 5.0 | 0.90 | ug/L | | | 11/07/11 06:54 | 5 |
| **Xylenes, Total** | **4.2** | **J** | 10 | 1.0 | ug/L | | | 11/07/11 06:54 | 5 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-24**
**Date Collected: 10/26/11 15:34**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-8**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 101 | | 70 - 130 | | 11/07/11 06:54 | 5 |
| Toluene-d8 (Surr) | 105 | | 70 - 130 | | 11/07/11 06:54 | 5 |
| Dibromofluoromethane | 90 | | 70 - 130 | | 11/07/11 06:54 | 5 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-26R**
**Date Collected: 10/26/11 11:45**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-9**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/09/11 16:43 | 1 |
| **Benzene** | **7.2** | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:43 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:43 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 16:43 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/09/11 16:43 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 16:43 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/09/11 16:43 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 16:43 | 1 |
| **Chlorobenzene** | **70** | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:43 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/09/11 16:43 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/09/11 16:43 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/09/11 16:43 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:43 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 16:43 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/09/11 16:43 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:43 | 1 |
| **1,2-Dichlorobenzene** | **4.6** | | 1.0 | 0.21 | ug/L | | | 11/09/11 16:43 | 1 |
| **1,3-Dichlorobenzene** | **5.7** | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:43 | 1 |
| **1,4-Dichlorobenzene** | **21** | | 1.0 | 0.28 | ug/L | | | 11/09/11 16:43 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:43 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:43 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 16:43 | 1 |
| **1,1-Dichloroethene** | **0.42** | **J** | 1.0 | 0.11 | ug/L | | | 11/09/11 16:43 | 1 |
| **cis-1,2-Dichloroethene** | **43** | | 1.0 | 0.15 | ug/L | | | 11/09/11 16:43 | 1 |
| **trans-1,2-Dichloroethene** | **0.92** | **J** | 1.0 | 0.20 | ug/L | | | 11/09/11 16:43 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 16:43 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 16:43 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/09/11 16:43 | 1 |
| **Ethylbenzene** | **35** | | 1.0 | 0.11 | ug/L | | | 11/09/11 16:43 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 16:43 | 1 |
| **Isopropylbenzene** | **1.5** | | 1.0 | 0.10 | ug/L | | | 11/09/11 16:43 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/09/11 16:43 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 16:43 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/09/11 16:43 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 16:43 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/09/11 16:43 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 16:43 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/09/11 16:43 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/09/11 16:43 | 1 |
| **Toluene** | **1.4** | | 1.0 | 0.33 | ug/L | | | 11/09/11 16:43 | 1 |
| **1,2,4-Trichlorobenzene** | **1.0** | **B *** | 1.0 | 0.25 | ug/L | | | 11/09/11 16:43 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 16:43 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 16:43 | 1 |
| **Trichloroethene** | **0.89** | **J** | 1.0 | 0.13 | ug/L | | | 11/09/11 16:43 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:43 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 16:43 | 1 |
| **Vinyl chloride** | **34** | | 1.0 | 0.18 | ug/L | | | 11/09/11 16:43 | 1 |
| **Xylenes, Total** | **110** | | 2.0 | 0.20 | ug/L | | | 11/09/11 16:43 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-26R**
**Date Collected: 10/26/11 11:45**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-9**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 99 | | 70 - 130 | | 11/09/11 16:43 | 1 |
| Toluene-d8 (Surr) | 101 | | 70 - 130 | | 11/09/11 16:43 | 1 |
| Dibromofluoromethane | 98 | | 70 - 130 | | 11/09/11 16:43 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-29**
**Date Collected: 10/26/11 16:13**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-10**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **170** | **J** | 500 | 100 | ug/L | | | 11/09/11 17:06 | 20 |
| Benzene | <20 | | 20 | 5.0 | ug/L | | | 11/09/11 17:06 | 20 |
| Bromodichloromethane | <20 | | 20 | 5.0 | ug/L | | | 11/09/11 17:06 | 20 |
| Bromoform | <20 | | 20 | 10 | ug/L | | | 11/09/11 17:06 | 20 |
| Bromomethane | <20 | | 20 | 16 | ug/L | | | 11/09/11 17:06 | 20 |
| **2-Butanone** | **48** | **J** | 200 | 20 | ug/L | | | 11/09/11 17:06 | 20 |
| Carbon disulfide | <40 | | 40 | 12 | ug/L | | | 11/09/11 17:06 | 20 |
| Carbon tetrachloride | <20 | | 20 | 10 | ug/L | | | 11/09/11 17:06 | 20 |
| **Chlorobenzene** | **49** | | 20 | 5.0 | ug/L | | | 11/09/11 17:06 | 20 |
| Chloroethane | <20 | | 20 | 20 | ug/L | | | 11/09/11 17:06 | 20 |
| **Chloroform** | **9.6** | **J** | 20 | 2.8 | ug/L | | | 11/09/11 17:06 | 20 |
| Chloromethane | <20 | | 20 | 6.6 | ug/L | | | 11/09/11 17:06 | 20 |
| Cyclohexane | <20 | | 20 | 5.0 | ug/L | | | 11/09/11 17:06 | 20 |
| Dibromochloromethane | <20 | | 20 | 2.0 | ug/L | | | 11/09/11 17:06 | 20 |
| 1,2-Dibromo-3-Chloropropane | <20 | | 20 | 8.8 | ug/L | | | 11/09/11 17:06 | 20 |
| 1,2-Dibromoethane | <20 | | 20 | 5.0 | ug/L | | | 11/09/11 17:06 | 20 |
| **1,2-Dichlorobenzene** | **32** | | 20 | 4.2 | ug/L | | | 11/09/11 17:06 | 20 |
| **1,3-Dichlorobenzene** | **44** | | 20 | 5.0 | ug/L | | | 11/09/11 17:06 | 20 |
| **1,4-Dichlorobenzene** | **130** | | 20 | 5.6 | ug/L | | | 11/09/11 17:06 | 20 |
| Dichlorodifluoromethane | <20 | | 20 | 5.0 | ug/L | | | 11/09/11 17:06 | 20 |
| 1,1-Dichloroethane | <20 | | 20 | 5.0 | ug/L | | | 11/09/11 17:06 | 20 |
| 1,2-Dichloroethane | <20 | | 20 | 2.0 | ug/L | | | 11/09/11 17:06 | 20 |
| 1,1-Dichloroethene | <20 | | 20 | 2.2 | ug/L | | | 11/09/11 17:06 | 20 |
| **cis-1,2-Dichloroethene** | **2300** | | 20 | 3.0 | ug/L | | | 11/09/11 17:06 | 20 |
| **trans-1,2-Dichloroethene** | **5.1** | **J** | 20 | 4.0 | ug/L | | | 11/09/11 17:06 | 20 |
| 1,2-Dichloropropane | <20 | | 20 | 2.6 | ug/L | | | 11/09/11 17:06 | 20 |
| cis-1,3-Dichloropropene | <20 | | 20 | 2.2 | ug/L | | | 11/09/11 17:06 | 20 |
| trans-1,3-Dichloropropene | <20 | | 20 | 4.2 | ug/L | | | 11/09/11 17:06 | 20 |
| **Ethylbenzene** | **1300** | | 20 | 2.2 | ug/L | | | 11/09/11 17:06 | 20 |
| 2-Hexanone | <200 | | 200 | 20 | ug/L | | | 11/09/11 17:06 | 20 |
| **Isopropylbenzene** | **42** | | 20 | 2.0 | ug/L | | | 11/09/11 17:06 | 20 |
| Methyl acetate | <20 | | 20 | 3.8 | ug/L | | | 11/09/11 17:06 | 20 |
| Methylcyclohexane | <20 | | 20 | 2.0 | ug/L | | | 11/09/11 17:06 | 20 |
| Methylene Chloride | <100 | | 100 | 20 | ug/L | | | 11/09/11 17:06 | 20 |
| 4-Methyl-2-pentanone | <200 | | 200 | 20 | ug/L | | | 11/09/11 17:06 | 20 |
| Methyl tert-butyl ether | <200 | | 200 | 4.0 | ug/L | | | 11/09/11 17:06 | 20 |
| Styrene | <20 | | 20 | 2.2 | ug/L | | | 11/09/11 17:06 | 20 |
| 1,1,2,2-Tetrachloroethane | <20 | | 20 | 3.6 | ug/L | | | 11/09/11 17:06 | 20 |
| **Tetrachloroethene** | **180** | | 20 | 3.0 | ug/L | | | 11/09/11 17:06 | 20 |
| Toluene | <20 | | 20 | 6.6 | ug/L | | | 11/09/11 17:06 | 20 |
| **1,2,4-Trichlorobenzene** | **230** | **B *** | 20 | 5.0 | ug/L | | | 11/09/11 17:06 | 20 |
| 1,1,1-Trichloroethane | <20 | | 20 | 10 | ug/L | | | 11/09/11 17:06 | 20 |
| 1,1,2-Trichloroethane | <20 | | 20 | 2.6 | ug/L | | | 11/09/11 17:06 | 20 |
| **Trichloroethene** | **72** | | 20 | 2.6 | ug/L | | | 11/09/11 17:06 | 20 |
| Trichlorofluoromethane | <20 | | 20 | 5.0 | ug/L | | | 11/09/11 17:06 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <20 | | 20 | 10 | ug/L | | | 11/09/11 17:06 | 20 |
| **Vinyl chloride** | **220** | | 20 | 3.6 | ug/L | | | 11/09/11 17:06 | 20 |
| **Xylenes, Total** | **2800** | | 40 | 4.0 | ug/L | | | 11/09/11 17:06 | 20 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-29**
**Date Collected: 10/26/11 16:13**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-10**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 95 | | 70 - 130 | | 11/09/11 17:06 | 20 |
| Toluene-d8 (Surr) | 102 | | 70 - 130 | | 11/09/11 17:06 | 20 |
| Dibromofluoromethane | 100 | | 70 - 130 | | 11/09/11 17:06 | 20 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-30**
**Date Collected: 10/26/11 10:48**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-11**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | **5.1** | **J** | 25 | 5.0 | ug/L | | | 11/07/11 08:42 | 1 |
| **Benzene** | **0.55** | **J** | 1.0 | 0.25 | ug/L | | | 11/07/11 08:42 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 08:42 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 08:42 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/07/11 08:42 | 1 |
| **2-Butanone** | **2.6** | **J** | 10 | 1.0 | ug/L | | | 11/07/11 08:42 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/07/11 08:42 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 08:42 | 1 |
| **Chlorobenzene** | **2.9** | | 1.0 | 0.25 | ug/L | | | 11/07/11 08:42 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/07/11 08:42 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/07/11 08:42 | 1 |
| Chloromethane | <1.0 | * | 1.0 | 0.33 | ug/L | | | 11/07/11 08:42 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 08:42 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 08:42 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/07/11 08:42 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 08:42 | 1 |
| **1,2-Dichlorobenzene** | **0.21** | **J** | 1.0 | 0.21 | ug/L | | | 11/07/11 08:42 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 08:42 | 1 |
| **1,4-Dichlorobenzene** | **0.75** | **J** | 1.0 | 0.28 | ug/L | | | 11/07/11 08:42 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 08:42 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 08:42 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 08:42 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/07/11 08:42 | 1 |
| **cis-1,2-Dichloroethene** | **13** | | 1.0 | 0.15 | ug/L | | | 11/07/11 08:42 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/07/11 08:42 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/07/11 08:42 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/07/11 08:42 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/07/11 08:42 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/07/11 08:42 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/07/11 08:42 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 08:42 | 1 |
| **Methyl acetate** | **3.0** | | 1.0 | 0.19 | ug/L | | | 11/07/11 08:42 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 08:42 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/07/11 08:42 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/07/11 08:42 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/07/11 08:42 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/07/11 08:42 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/07/11 08:42 | 1 |
| **Tetrachloroethene** | **0.51** | **J** | 1.0 | 0.15 | ug/L | | | 11/07/11 08:42 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/07/11 08:42 | 1 |
| **1,2,4-Trichlorobenzene** | **0.96** | **J** | 1.0 | 0.25 | ug/L | | | 11/07/11 08:42 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 08:42 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/07/11 08:42 | 1 |
| **Trichloroethene** | **0.55** | **J** | 1.0 | 0.13 | ug/L | | | 11/07/11 08:42 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 08:42 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 08:42 | 1 |
| **Vinyl chloride** | **2.9** | | 1.0 | 0.18 | ug/L | | | 11/07/11 08:42 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/07/11 08:42 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-30**
**Date Collected: 10/26/11 10:48**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-11**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 99 | | 70 - 130 | | 11/07/11 08:42 | 1 |
| Toluene-d8 (Surr) | 104 | | 70 - 130 | | 11/07/11 08:42 | 1 |
| Dibromofluoromethane | 95 | | 70 - 130 | | 11/07/11 08:42 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-32**
**Date Collected: 10/25/11 17:04**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-12**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <250 | | 250 | 50 | ug/L | | | 11/06/11 02:03 | 10 |
| Benzene | <10 | | 10 | 2.5 | ug/L | | | 11/06/11 02:03 | 10 |
| Bromodichloromethane | <10 | | 10 | 2.5 | ug/L | | | 11/06/11 02:03 | 10 |
| Bromoform | <10 | | 10 | 5.0 | ug/L | | | 11/06/11 02:03 | 10 |
| Bromomethane | <10 | | 10 | 8.0 | ug/L | | | 11/06/11 02:03 | 10 |
| 2-Butanone | <100 | | 100 | 10 | ug/L | | | 11/06/11 02:03 | 10 |
| Carbon disulfide | <20 | | 20 | 6.0 | ug/L | | | 11/06/11 02:03 | 10 |
| Carbon tetrachloride | <10 | | 10 | 5.0 | ug/L | | | 11/06/11 02:03 | 10 |
| **Chlorobenzene** | **4.2** | **J** | 10 | 2.5 | ug/L | | | 11/06/11 02:03 | 10 |
| Chloroethane | <10 | | 10 | 10 | ug/L | | | 11/06/11 02:03 | 10 |
| Chloroform | <10 | | 10 | 1.4 | ug/L | | | 11/06/11 02:03 | 10 |
| Chloromethane | <10 | | 10 | 3.3 | ug/L | | | 11/06/11 02:03 | 10 |
| Cyclohexane | <10 | | 10 | 2.5 | ug/L | | | 11/06/11 02:03 | 10 |
| Dibromochloromethane | <10 | | 10 | 1.0 | ug/L | | | 11/06/11 02:03 | 10 |
| 1,2-Dibromo-3-Chloropropane | <10 | | 10 | 4.4 | ug/L | | | 11/06/11 02:03 | 10 |
| 1,2-Dibromoethane | <10 | | 10 | 2.5 | ug/L | | | 11/06/11 02:03 | 10 |
| **1,2-Dichlorobenzene** | **4.5** | **J** | 10 | 2.1 | ug/L | | | 11/06/11 02:03 | 10 |
| **1,3-Dichlorobenzene** | **6.5** | **J** | 10 | 2.5 | ug/L | | | 11/06/11 02:03 | 10 |
| **1,4-Dichlorobenzene** | **15** | | 10 | 2.8 | ug/L | | | 11/06/11 02:03 | 10 |
| Dichlorodifluoromethane | <10 | | 10 | 2.5 | ug/L | | | 11/06/11 02:03 | 10 |
| 1,1-Dichloroethane | <10 | | 10 | 2.5 | ug/L | | | 11/06/11 02:03 | 10 |
| 1,2-Dichloroethane | <10 | | 10 | 1.0 | ug/L | | | 11/06/11 02:03 | 10 |
| **1,1-Dichloroethene** | **3.4** | **J** | 10 | 1.1 | ug/L | | | 11/06/11 02:03 | 10 |
| **cis-1,2-Dichloroethene** | **1500** | | 10 | 1.5 | ug/L | | | 11/06/11 02:03 | 10 |
| **trans-1,2-Dichloroethene** | **2.2** | **J** | 10 | 2.0 | ug/L | | | 11/06/11 02:03 | 10 |
| 1,2-Dichloropropane | <10 | | 10 | 1.3 | ug/L | | | 11/06/11 02:03 | 10 |
| cis-1,3-Dichloropropene | <10 | | 10 | 1.1 | ug/L | | | 11/06/11 02:03 | 10 |
| trans-1,3-Dichloropropene | <10 | | 10 | 2.1 | ug/L | | | 11/06/11 02:03 | 10 |
| **Ethylbenzene** | **31** | | 10 | 1.1 | ug/L | | | 11/06/11 02:03 | 10 |
| 2-Hexanone | <100 | | 100 | 10 | ug/L | | | 11/06/11 02:03 | 10 |
| **Isopropylbenzene** | **5.9** | **J** | 10 | 1.0 | ug/L | | | 11/06/11 02:03 | 10 |
| Methyl acetate | <10 | | 10 | 1.9 | ug/L | | | 11/06/11 02:03 | 10 |
| Methylcyclohexane | <10 | | 10 | 1.0 | ug/L | | | 11/06/11 02:03 | 10 |
| Methylene Chloride | <50 | | 50 | 10 | ug/L | | | 11/06/11 02:03 | 10 |
| 4-Methyl-2-pentanone | <100 | | 100 | 10 | ug/L | | | 11/06/11 02:03 | 10 |
| Methyl tert-butyl ether | <100 | | 100 | 2.0 | ug/L | | | 11/06/11 02:03 | 10 |
| Styrene | <10 | | 10 | 1.1 | ug/L | | | 11/06/11 02:03 | 10 |
| 1,1,2,2-Tetrachloroethane | <10 | | 10 | 1.8 | ug/L | | | 11/06/11 02:03 | 10 |
| **Tetrachloroethene** | **7.2** | **J** | 10 | 1.5 | ug/L | | | 11/06/11 02:03 | 10 |
| Toluene | <10 | | 10 | 3.3 | ug/L | | | 11/06/11 02:03 | 10 |
| **1,2,4-Trichlorobenzene** | **48** | ***** | 10 | 2.5 | ug/L | | | 11/06/11 02:03 | 10 |
| 1,1,1-Trichloroethane | <10 | | 10 | 5.0 | ug/L | | | 11/06/11 02:03 | 10 |
| 1,1,2-Trichloroethane | <10 | | 10 | 1.3 | ug/L | | | 11/06/11 02:03 | 10 |
| **Trichloroethene** | **11** | | 10 | 1.3 | ug/L | | | 11/06/11 02:03 | 10 |
| Trichlorofluoromethane | <10 | | 10 | 2.5 | ug/L | | | 11/06/11 02:03 | 10 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <10 | | 10 | 5.0 | ug/L | | | 11/06/11 02:03 | 10 |
| **Vinyl chloride** | **35** | | 10 | 1.8 | ug/L | | | 11/06/11 02:03 | 10 |
| **Xylenes, Total** | **35** | | 20 | 2.0 | ug/L | | | 11/06/11 02:03 | 10 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-32**
**Date Collected: 10/25/11 17:04**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-12**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 98 | | 70 - 130 | | 11/06/11 02:03 | 10 |
| Toluene-d8 (Surr) | 101 | | 70 - 130 | | 11/06/11 02:03 | 10 |
| Dibromofluoromethane | 97 | | 70 - 130 | | 11/06/11 02:03 | 10 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-33**
**Date Collected: 10/25/11 17:10**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-13**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <5000 | | 5000 | 1000 | ug/L | | | 11/06/11 02:30 | 200 |
| Benzene | <200 | | 200 | 50 | ug/L | | | 11/06/11 02:30 | 200 |
| Bromodichloromethane | <200 | | 200 | 50 | ug/L | | | 11/06/11 02:30 | 200 |
| Bromoform | <200 | | 200 | 100 | ug/L | | | 11/06/11 02:30 | 200 |
| Bromomethane | <200 | | 200 | 160 | ug/L | | | 11/06/11 02:30 | 200 |
| 2-Butanone | <2000 | | 2000 | 200 | ug/L | | | 11/06/11 02:30 | 200 |
| Carbon disulfide | <400 | | 400 | 120 | ug/L | | | 11/06/11 02:30 | 200 |
| Carbon tetrachloride | <200 | | 200 | 100 | ug/L | | | 11/06/11 02:30 | 200 |
| **Chlorobenzene** | **170** | **J** | 200 | 50 | ug/L | | | 11/06/11 02:30 | 200 |
| Chloroethane | <200 | | 200 | 200 | ug/L | | | 11/06/11 02:30 | 200 |
| **Chloroform** | **50** | **J** | 200 | 28 | ug/L | | | 11/06/11 02:30 | 200 |
| Chloromethane | <200 | | 200 | 66 | ug/L | | | 11/06/11 02:30 | 200 |
| Cyclohexane | <200 | | 200 | 50 | ug/L | | | 11/06/11 02:30 | 200 |
| Dibromochloromethane | <200 | | 200 | 20 | ug/L | | | 11/06/11 02:30 | 200 |
| 1,2-Dibromo-3-Chloropropane | <200 | | 200 | 88 | ug/L | | | 11/06/11 02:30 | 200 |
| 1,2-Dibromoethane | <200 | | 200 | 50 | ug/L | | | 11/06/11 02:30 | 200 |
| 1,2-Dichlorobenzene | <200 | | 200 | 42 | ug/L | | | 11/06/11 02:30 | 200 |
| 1,3-Dichlorobenzene | <200 | | 200 | 50 | ug/L | | | 11/06/11 02:30 | 200 |
| **1,4-Dichlorobenzene** | **260** | | 200 | 56 | ug/L | | | 11/06/11 02:30 | 200 |
| Dichlorodifluoromethane | <200 | | 200 | 50 | ug/L | | | 11/06/11 02:30 | 200 |
| 1,1-Dichloroethane | <200 | | 200 | 50 | ug/L | | | 11/06/11 02:30 | 200 |
| 1,2-Dichloroethane | <200 | | 200 | 20 | ug/L | | | 11/06/11 02:30 | 200 |
| **1,1-Dichloroethene** | **44** | **J** | 200 | 22 | ug/L | | | 11/06/11 02:30 | 200 |
| **cis-1,2-Dichloroethene** | **16000** | | 200 | 30 | ug/L | | | 11/06/11 02:30 | 200 |
| **trans-1,2-Dichloroethene** | **45** | **J** | 200 | 40 | ug/L | | | 11/06/11 02:30 | 200 |
| 1,2-Dichloropropane | <200 | | 200 | 26 | ug/L | | | 11/06/11 02:30 | 200 |
| cis-1,3-Dichloropropene | <200 | | 200 | 22 | ug/L | | | 11/06/11 02:30 | 200 |
| trans-1,3-Dichloropropene | <200 | | 200 | 42 | ug/L | | | 11/06/11 02:30 | 200 |
| **Ethylbenzene** | **370** | | 200 | 22 | ug/L | | | 11/06/11 02:30 | 200 |
| 2-Hexanone | <2000 | | 2000 | 200 | ug/L | | | 11/06/11 02:30 | 200 |
| Isopropylbenzene | <200 | | 200 | 20 | ug/L | | | 11/06/11 02:30 | 200 |
| Methyl acetate | <200 | | 200 | 38 | ug/L | | | 11/06/11 02:30 | 200 |
| Methylcyclohexane | <200 | | 200 | 20 | ug/L | | | 11/06/11 02:30 | 200 |
| Methylene Chloride | <1000 | | 1000 | 200 | ug/L | | | 11/06/11 02:30 | 200 |
| 4-Methyl-2-pentanone | <2000 | | 2000 | 200 | ug/L | | | 11/06/11 02:30 | 200 |
| Methyl tert-butyl ether | <2000 | | 2000 | 40 | ug/L | | | 11/06/11 02:30 | 200 |
| Styrene | <200 | | 200 | 22 | ug/L | | | 11/06/11 02:30 | 200 |
| 1,1,2,2-Tetrachloroethane | <200 | | 200 | 36 | ug/L | | | 11/06/11 02:30 | 200 |
| **Tetrachloroethene** | **5200** | | 200 | 30 | ug/L | | | 11/06/11 02:30 | 200 |
| Toluene | <200 | | 200 | 66 | ug/L | | | 11/06/11 02:30 | 200 |
| **1,2,4-Trichlorobenzene** | **260** | * | 200 | 50 | ug/L | | | 11/06/11 02:30 | 200 |
| 1,1,1-Trichloroethane | <200 | | 200 | 100 | ug/L | | | 11/06/11 02:30 | 200 |
| 1,1,2-Trichloroethane | <200 | | 200 | 26 | ug/L | | | 11/06/11 02:30 | 200 |
| **Trichloroethene** | **3200** | | 200 | 26 | ug/L | | | 11/06/11 02:30 | 200 |
| Trichlorofluoromethane | <200 | | 200 | 50 | ug/L | | | 11/06/11 02:30 | 200 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <200 | | 200 | 100 | ug/L | | | 11/06/11 02:30 | 200 |
| **Vinyl chloride** | **840** | | 200 | 36 | ug/L | | | 11/06/11 02:30 | 200 |
| **Xylenes, Total** | **2200** | | 400 | 40 | ug/L | | | 11/06/11 02:30 | 200 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-33**
**Date Collected: 10/25/11 17:10**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-13**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 98 | | 70 - 130 | | 11/06/11 02:30 | 200 |
| Toluene-d8 (Surr) | 100 | | 70 - 130 | | 11/06/11 02:30 | 200 |
| Dibromofluoromethane | 99 | | 70 - 130 | | 11/06/11 02:30 | 200 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-34**
**Date Collected: 10/25/11 15:06**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-14**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/06/11 01:12 | 1 |
| **Benzene** | **1.6** | | 1.0 | 0.25 | ug/L | | | 11/06/11 01:12 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 01:12 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/06/11 01:12 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/06/11 01:12 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/06/11 01:12 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/06/11 01:12 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/06/11 01:12 | 1 |
| **Chlorobenzene** | **8.9** | | 1.0 | 0.25 | ug/L | | | 11/06/11 01:12 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/06/11 01:12 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/06/11 01:12 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/06/11 01:12 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 01:12 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/06/11 01:12 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/06/11 01:12 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 01:12 | 1 |
| **1,2-Dichlorobenzene** | **0.47** | **J** | 1.0 | 0.21 | ug/L | | | 11/06/11 01:12 | 1 |
| **1,3-Dichlorobenzene** | **0.35** | **J** | 1.0 | 0.25 | ug/L | | | 11/06/11 01:12 | 1 |
| **1,4-Dichlorobenzene** | **2.3** | | 1.0 | 0.28 | ug/L | | | 11/06/11 01:12 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 01:12 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 01:12 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/06/11 01:12 | 1 |
| **1,1-Dichloroethene** | **0.23** | **J** | 1.0 | 0.11 | ug/L | | | 11/06/11 01:12 | 1 |
| **cis-1,2-Dichloroethene** | **44** | | 1.0 | 0.15 | ug/L | | | 11/06/11 01:12 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/06/11 01:12 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/06/11 01:12 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/06/11 01:12 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/06/11 01:12 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/06/11 01:12 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/06/11 01:12 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/06/11 01:12 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/06/11 01:12 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/06/11 01:12 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/06/11 01:12 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/06/11 01:12 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/06/11 01:12 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/06/11 01:12 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/06/11 01:12 | 1 |
| **Tetrachloroethene** | **2.2** | | 1.0 | 0.15 | ug/L | | | 11/06/11 01:12 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/06/11 01:12 | 1 |
| **1,2,4-Trichlorobenzene** | **3.9** | * | 1.0 | 0.25 | ug/L | | | 11/06/11 01:12 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/06/11 01:12 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/06/11 01:12 | 1 |
| **Trichloroethene** | **1.7** | | 1.0 | 0.13 | ug/L | | | 11/06/11 01:12 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 01:12 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/06/11 01:12 | 1 |
| **Vinyl chloride** | **8.8** | | 1.0 | 0.18 | ug/L | | | 11/06/11 01:12 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/06/11 01:12 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: MW-34**
**Date Collected: 10/25/11 15:06**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-14**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 98 | | 70 - 130 | | 11/06/11 01:12 | 1 |
| Toluene-d8 (Surr) | 102 | | 70 - 130 | | 11/06/11 01:12 | 1 |
| Dibromofluoromethane | 94 | | 70 - 130 | | 11/06/11 01:12 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: Trip Blank**
**Date Collected: 10/25/11 00:00**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-15**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/05/11 20:13 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:13 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:13 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:13 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/05/11 20:13 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 20:13 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/05/11 20:13 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:13 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:13 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/05/11 20:13 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/05/11 20:13 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/05/11 20:13 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:13 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/05/11 20:13 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 20:13 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/05/11 20:13 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 20:13 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 20:13 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/05/11 20:13 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 20:13 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 20:13 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 20:13 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/05/11 20:13 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 20:13 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/05/11 20:13 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 20:13 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/05/11 20:13 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/05/11 20:13 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/05/11 20:13 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | * | 1.0 | 0.25 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 20:13 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 20:13 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 20:13 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 20:13 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/05/11 20:13 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/05/11 20:13 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

**Client Sample ID: Trip Blank**
**Date Collected: 10/25/11 00:00**
**Date Received: 10/27/11 10:00**

**Lab Sample ID: 680-73799-15**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 98 | | 70 - 130 | | 11/05/11 20:13 | 1 |
| Toluene-d8 (Surr) | 103 | | 70 - 130 | | 11/05/11 20:13 | 1 |
| Dibromofluoromethane | 90 | | 70 - 130 | | 11/05/11 20:13 | 1 |

# Surrogate Summary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Water**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | |
|---|---|---|---|---|
| | | BFB | TOL | DBFM |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | (70-130) |
| 680-73799-1 | LAW-PZ-8 | 113 | 115 | 110 |
| 680-73799-1 - DL | LAW-PZ-8 | 111 | 108 | 101 |
| 680-73799-2 | PAN-MW-9 | 106 | 104 | 104 |
| 680-73799-3 | PAN-MW-10 | 111 | 110 | 108 |
| 680-73799-4 | MW-15 | 115 | 112 | 105 |
| 680-73799-4 - DL | MW-15 | 104 | 108 | 102 |
| 680-73799-5 | MW-16 | 112 | 109 | 113 |
| 680-73799-6 | MW-17R | 93 | 103 | 99 |
| 680-73799-7 | MW-18R | 100 | 102 | 97 |
| 680-73799-8 | MW-24 | 101 | 105 | 90 |
| 680-73799-9 | MW-26R | 99 | 101 | 98 |
| 680-73799-10 | MW-29 | 95 | 102 | 100 |
| 680-73799-11 | MW-30 | 99 | 104 | 95 |
| 680-73799-12 | MW-32 | 98 | 101 | 97 |
| 680-73799-13 | MW-33 | 98 | 100 | 99 |
| 680-73799-14 | MW-34 | 98 | 102 | 94 |
| 680-73799-15 | Trip Blank | 98 | 103 | 90 |
| LCS 680-220123/5 | Lab Control Sample | 102 | 101 | 105 |
| LCS 680-220129/24 | Lab Control Sample | 105 | 106 | 113 |
| LCS 680-220251/21 | Lab Control Sample | 97 | 103 | 98 |
| LCS 680-220477/7 | Lab Control Sample | 103 | 101 | 108 |
| LCS 680-220479/7 | Lab Control Sample | 91 | 96 | 98 |
| LCS 680-220514/4 | Lab Control Sample | 103 | 95 | 109 |
| LCSD 680-220123/6 | Lab Control Sample Dup | 97 | 101 | 99 |
| LCSD 680-220129/28 | Lab Control Sample Dup | 103 | 106 | 112 |
| LCSD 680-220251/22 | Lab Control Sample Dup | 99 | 102 | 103 |
| LCSD 680-220477/8 | Lab Control Sample Dup | 105 | 102 | 107 |
| LCSD 680-220479/8 | Lab Control Sample Dup | 91 | 101 | 98 |
| LCSD 680-220514/5 | Lab Control Sample Dup | 107 | 100 | 109 |
| MB 680-220123/8 | Method Blank | 100 | 103 | 97 |
| MB 680-220129/27 | Method Blank | 111 | 112 | 110 |
| MB 680-220251/24 | Method Blank | 98 | 104 | 92 |
| MB 680-220477/10 | Method Blank | 102 | 104 | 105 |
| MB 680-220479/10 | Method Blank | 99 | 102 | 99 |
| MB 680-220514/7 | Method Blank | 103 | 101 | 109 |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 680-220123/8**
**Matrix: Water**
**Analysis Batch: 220123**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/05/11 19:44 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 19:44 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 19:44 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 19:44 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/05/11 19:44 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 19:44 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/05/11 19:44 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 19:44 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 19:44 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/05/11 19:44 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/05/11 19:44 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/05/11 19:44 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 19:44 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/05/11 19:44 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 19:44 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/05/11 19:44 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 19:44 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 19:44 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/05/11 19:44 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 19:44 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 19:44 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 19:44 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/05/11 19:44 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 19:44 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/05/11 19:44 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 19:44 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/05/11 19:44 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/05/11 19:44 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/05/11 19:44 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 19:44 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 19:44 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 19:44 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 19:44 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/05/11 19:44 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/05/11 19:44 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-220123/8**
**Matrix: Water**
**Analysis Batch: 220123**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 100 | | 70 - 130 | | 11/05/11 19:44 | 1 |
| Toluene-d8 (Surr) | 103 | | 70 - 130 | | 11/05/11 19:44 | 1 |
| Dibromofluoromethane | 97 | | 70 - 130 | | 11/05/11 19:44 | 1 |

**Lab Sample ID: LCS 680-220123/5**
**Matrix: Water**
**Analysis Batch: 220123**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acetone | 100 | 117 | | ug/L | | 117 | 26 - 180 |
| Benzene | 50.0 | 45.6 | | ug/L | | 91 | 70 - 130 |
| Bromodichloromethane | 50.0 | 53.5 | | ug/L | | 107 | 70 - 130 |
| Bromoform | 50.0 | 52.3 | | ug/L | | 105 | 70 - 130 |
| Bromomethane | 50.0 | 52.3 | | ug/L | | 105 | 23 - 165 |
| 2-Butanone | 100 | 89.8 | | ug/L | | 90 | 49 - 172 |
| Carbon disulfide | 50.0 | 46.7 | | ug/L | | 93 | 54 - 132 |
| Carbon tetrachloride | 50.0 | 52.3 | | ug/L | | 105 | 70 - 130 |
| Chlorobenzene | 50.0 | 51.3 | | ug/L | | 103 | 70 - 130 |
| Chloroethane | 50.0 | 55.5 | | ug/L | | 111 | 56 - 152 |
| Chloroform | 50.0 | 49.1 | | ug/L | | 98 | 70 - 130 |
| Chloromethane | 50.0 | 40.8 | | ug/L | | 82 | 70 - 130 |
| Cyclohexane | 50.0 | 45.4 | | ug/L | | 91 | 70 - 132 |
| Dibromochloromethane | 50.0 | 60.9 | | ug/L | | 122 | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 49.9 | | ug/L | | 100 | 70 - 130 |
| 1,2-Dibromoethane | 50.0 | 51.8 | | ug/L | | 104 | 70 - 130 |
| 1,2-Dichlorobenzene | 50.0 | 55.1 | | ug/L | | 110 | 70 - 130 |
| 1,3-Dichlorobenzene | 50.0 | 54.3 | | ug/L | | 109 | 70 - 130 |
| 1,4-Dichlorobenzene | 50.0 | 54.8 | | ug/L | | 110 | 70 - 130 |
| Dichlorodifluoromethane | 50.0 | 52.2 | | ug/L | | 104 | 44 - 146 |
| 1,1-Dichloroethane | 50.0 | 44.7 | | ug/L | | 89 | 70 - 130 |
| 1,2-Dichloroethane | 50.0 | 48.8 | | ug/L | | 98 | 70 - 130 |
| 1,1-Dichloroethene | 50.0 | 48.8 | | ug/L | | 98 | 66 - 131 |
| cis-1,2-Dichloroethene | 50.0 | 48.0 | | ug/L | | 96 | 70 - 130 |
| trans-1,2-Dichloroethene | 50.0 | 47.6 | | ug/L | | 95 | 70 - 130 |
| 1,2-Dichloropropane | 50.0 | 42.9 | | ug/L | | 86 | 70 - 130 |
| cis-1,3-Dichloropropene | 50.0 | 51.4 | | ug/L | | 103 | 70 - 130 |
| trans-1,3-Dichloropropene | 50.0 | 53.9 | | ug/L | | 108 | 70 - 130 |
| Ethylbenzene | 50.0 | 49.6 | | ug/L | | 99 | 70 - 130 |
| 2-Hexanone | 100 | 92.0 | | ug/L | | 92 | 42 - 185 |
| Isopropylbenzene | 50.0 | 47.0 | | ug/L | | 94 | 70 - 130 |
| Methyl acetate | 50.0 | 37.2 | | ug/L | | 74 | 70 - 130 |
| Methylcyclohexane | 50.0 | 49.3 | | ug/L | | 99 | 70 - 134 |
| Methylene Chloride | 50.0 | 43.6 | | ug/L | | 87 | 67 - 130 |
| 4-Methyl-2-pentanone | 100 | 82.6 | | ug/L | | 83 | 70 - 130 |
| Methyl tert-butyl ether | 100 | 96.0 | | ug/L | | 96 | 64 - 131 |
| Styrene | 50.0 | 50.8 | | ug/L | | 102 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 44.8 | | ug/L | | 90 | 70 - 130 |
| Tetrachloroethene | 50.0 | 56.3 | | ug/L | | 113 | 70 - 130 |
| Toluene | 50.0 | 48.7 | | ug/L | | 97 | 70 - 130 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-220123/5**
**Matrix: Water**
**Analysis Batch: 220123**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 50.0 | 65.4 | * | ug/L | | 131 | 65 - 130 |
| 1,1,1-Trichloroethane | 50.0 | 56.3 | | ug/L | | 113 | 70 - 130 |
| 1,1,2-Trichloroethane | 50.0 | 46.6 | | ug/L | | 93 | 70 - 130 |
| Trichloroethene | 50.0 | 53.5 | | ug/L | | 107 | 70 - 130 |
| Trichlorofluoromethane | 50.0 | 53.4 | | ug/L | | 107 | 55 - 156 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 50.3 | | ug/L | | 101 | 60 - 135 |
| Vinyl chloride | 50.0 | 44.0 | | ug/L | | 88 | 67 - 134 |
| Xylenes, Total | 150 | 152 | | ug/L | | 101 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *102* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |
| *Dibromofluoromethane* | *105* | | *70 - 130* |

**Lab Sample ID: LCSD 680-220123/6**
**Matrix: Water**
**Analysis Batch: 220123**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 100 | 117 | | ug/L | | 117 | 26 - 180 | 0 | 50 |
| Benzene | 50.0 | 46.9 | | ug/L | | 94 | 70 - 130 | 3 | 30 |
| Bromodichloromethane | 50.0 | 54.0 | | ug/L | | 108 | 70 - 130 | 1 | 30 |
| Bromoform | 50.0 | 48.3 | | ug/L | | 97 | 70 - 130 | 8 | 30 |
| Bromomethane | 50.0 | 52.4 | | ug/L | | 105 | 23 - 165 | 0 | 50 |
| 2-Butanone | 100 | 92.1 | | ug/L | | 92 | 49 - 172 | 2 | 30 |
| Carbon disulfide | 50.0 | 42.7 | | ug/L | | 85 | 54 - 132 | 9 | 30 |
| Carbon tetrachloride | 50.0 | 51.7 | | ug/L | | 103 | 70 - 130 | 1 | 30 |
| Chlorobenzene | 50.0 | 49.5 | | ug/L | | 99 | 70 - 130 | 4 | 30 |
| Chloroethane | 50.0 | 55.4 | | ug/L | | 111 | 56 - 152 | 0 | 40 |
| Chloroform | 50.0 | 47.9 | | ug/L | | 96 | 70 - 130 | 2 | 30 |
| Chloromethane | 50.0 | 39.7 | | ug/L | | 79 | 70 - 130 | 3 | 30 |
| Cyclohexane | 50.0 | 45.5 | | ug/L | | 91 | 70 - 132 | 0 | 30 |
| Dibromochloromethane | 50.0 | 57.6 | | ug/L | | 115 | 70 - 130 | 5 | 50 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 47.6 | | ug/L | | 95 | 70 - 130 | 5 | 50 |
| 1,2-Dibromoethane | 50.0 | 51.0 | | ug/L | | 102 | 70 - 130 | 2 | 30 |
| 1,2-Dichlorobenzene | 50.0 | 51.6 | | ug/L | | 103 | 70 - 130 | 7 | 30 |
| 1,3-Dichlorobenzene | 50.0 | 50.8 | | ug/L | | 102 | 70 - 130 | 7 | 30 |
| 1,4-Dichlorobenzene | 50.0 | 50.9 | | ug/L | | 102 | 70 - 130 | 7 | 30 |
| Dichlorodifluoromethane | 50.0 | 47.7 | | ug/L | | 95 | 44 - 146 | 9 | 50 |
| 1,1-Dichloroethane | 50.0 | 44.6 | | ug/L | | 89 | 70 - 130 | 0 | 30 |
| 1,2-Dichloroethane | 50.0 | 50.0 | | ug/L | | 100 | 70 - 130 | 2 | 30 |
| 1,1-Dichloroethene | 50.0 | 46.2 | | ug/L | | 92 | 66 - 131 | 5 | 30 |
| cis-1,2-Dichloroethene | 50.0 | 45.7 | | ug/L | | 91 | 70 - 130 | 5 | 30 |
| trans-1,2-Dichloroethene | 50.0 | 45.1 | | ug/L | | 90 | 70 - 130 | 6 | 30 |
| 1,2-Dichloropropane | 50.0 | 44.7 | | ug/L | | 89 | 70 - 130 | 4 | 30 |
| cis-1,3-Dichloropropene | 50.0 | 52.0 | | ug/L | | 104 | 70 - 130 | 1 | 30 |
| trans-1,3-Dichloropropene | 50.0 | 53.6 | | ug/L | | 107 | 70 - 130 | 1 | 50 |
| Ethylbenzene | 50.0 | 48.3 | | ug/L | | 97 | 70 - 130 | 3 | 30 |
| 2-Hexanone | 100 | 95.1 | | ug/L | | 95 | 42 - 185 | 3 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-220123/6**
**Matrix: Water**
**Analysis Batch: 220123**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Isopropylbenzene | | | 50.0 | 45.7 | | ug/L | | 91 | 70 - 130 | 3 | 30 |
| Methyl acetate | | | 50.0 | 38.8 | | ug/L | | 78 | 70 - 130 | 4 | 30 |
| Methylcyclohexane | | | 50.0 | 48.6 | | ug/L | | 97 | 70 - 134 | 2 | 30 |
| Methylene Chloride | | | 50.0 | 42.8 | | ug/L | | 86 | 67 - 130 | 2 | 30 |
| 4-Methyl-2-pentanone | | | 100 | 88.8 | | ug/L | | 89 | 70 - 130 | 7 | 30 |
| Methyl tert-butyl ether | | | 100 | 93.3 | | ug/L | | 93 | 64 - 131 | 3 | 30 |
| Styrene | | | 50.0 | 49.1 | | ug/L | | 98 | 70 - 130 | 3 | 30 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 43.9 | | ug/L | | 88 | 70 - 130 | 2 | 30 |
| Tetrachloroethene | | | 50.0 | 52.7 | | ug/L | | 105 | 70 - 130 | 7 | 30 |
| Toluene | | | 50.0 | 48.3 | | ug/L | | 97 | 70 - 130 | 1 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 58.9 | | ug/L | | 118 | 65 - 130 | 10 | 30 |
| 1,1,1-Trichloroethane | | | 50.0 | 56.2 | | ug/L | | 112 | 70 - 130 | 0 | 30 |
| 1,1,2-Trichloroethane | | | 50.0 | 46.9 | | ug/L | | 94 | 70 - 130 | 1 | 30 |
| Trichloroethene | | | 50.0 | 51.5 | | ug/L | | 103 | 70 - 130 | 4 | 30 |
| Trichlorofluoromethane | | | 50.0 | 50.7 | | ug/L | | 101 | 55 - 156 | 5 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 46.0 | | ug/L | | 92 | 60 - 135 | 9 | 30 |
| Vinyl chloride | | | 50.0 | 42.7 | | ug/L | | 85 | 67 - 134 | 3 | 30 |
| Xylenes, Total | | | 150 | 147 | | ug/L | | 98 | 70 - 130 | 3 | 30 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *97* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |
| *Dibromofluoromethane* | *99* | | *70 - 130* |

**Lab Sample ID: MB 680-220129/27**
**Matrix: Water**
**Analysis Batch: 220129**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/05/11 14:54 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 14:54 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 14:54 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 14:54 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/05/11 14:54 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 14:54 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/05/11 14:54 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 14:54 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 14:54 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/05/11 14:54 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/05/11 14:54 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/05/11 14:54 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 14:54 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/05/11 14:54 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 14:54 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-220129/27**
**Matrix: Water**
**Analysis Batch: 220129**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 14:54 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/05/11 14:54 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 14:54 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 14:54 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/05/11 14:54 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 14:54 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 14:54 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 14:54 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/05/11 14:54 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/05/11 14:54 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/05/11 14:54 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/05/11 14:54 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/05/11 14:54 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/05/11 14:54 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/05/11 14:54 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 14:54 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/05/11 14:54 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/05/11 14:54 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/05/11 14:54 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/05/11 14:54 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/05/11 14:54 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene* | *111* | | *70 - 130* | | *11/05/11 14:54* | *1* |
| *Toluene-d8 (Surr)* | *112* | | *70 - 130* | | *11/05/11 14:54* | *1* |
| *Dibromofluoromethane* | *110* | | *70 - 130* | | *11/05/11 14:54* | *1* |

**Lab Sample ID: LCS 680-220129/24**
**Matrix: Water**
**Analysis Batch: 220129**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acetone | 100 | 92.5 | | ug/L | | 93 | 26 - 180 |
| Benzene | 50.0 | 54.7 | | ug/L | | 109 | 70 - 130 |
| Bromodichloromethane | 50.0 | 57.6 | | ug/L | | 115 | 70 - 130 |
| Bromoform | 50.0 | 48.1 | | ug/L | | 96 | 70 - 130 |
| Bromomethane | 50.0 | 47.4 | | ug/L | | 95 | 23 - 165 |
| 2-Butanone | 100 | 101 | | ug/L | | 101 | 49 - 172 |
| Carbon disulfide | 50.0 | 57.6 | | ug/L | | 115 | 54 - 132 |
| Carbon tetrachloride | 50.0 | 50.2 | | ug/L | | 100 | 70 - 130 |
| Chlorobenzene | 50.0 | 54.2 | | ug/L | | 108 | 70 - 130 |
| Chloroethane | 50.0 | 52.2 | | ug/L | | 104 | 56 - 152 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-220129/24**
**Matrix: Water**
**Analysis Batch: 220129**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Chloroform | 50.0 | 57.4 | | ug/L | | 115 | 70 - 130 |
| Chloromethane | 50.0 | 59.7 | | ug/L | | 119 | 70 - 130 |
| Cyclohexane | 50.0 | 56.9 | | ug/L | | 114 | 70 - 132 |
| Dibromochloromethane | 50.0 | 49.9 | | ug/L | | 100 | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 45.3 | | ug/L | | 91 | 70 - 130 |
| 1,2-Dibromoethane | 50.0 | 54.0 | | ug/L | | 108 | 70 - 130 |
| 1,2-Dichlorobenzene | 50.0 | 53.6 | | ug/L | | 107 | 70 - 130 |
| 1,3-Dichlorobenzene | 50.0 | 53.4 | | ug/L | | 107 | 70 - 130 |
| 1,4-Dichlorobenzene | 50.0 | 53.6 | | ug/L | | 107 | 70 - 130 |
| Dichlorodifluoromethane | 50.0 | 54.8 | | ug/L | | 110 | 44 - 146 |
| 1,1-Dichloroethane | 50.0 | 52.1 | | ug/L | | 104 | 70 - 130 |
| 1,2-Dichloroethane | 50.0 | 53.9 | | ug/L | | 108 | 70 - 130 |
| 1,1-Dichloroethene | 50.0 | 53.0 | | ug/L | | 106 | 66 - 131 |
| cis-1,2-Dichloroethene | 50.0 | 57.3 | | ug/L | | 115 | 70 - 130 |
| trans-1,2-Dichloroethene | 50.0 | 59.4 | | ug/L | | 119 | 70 - 130 |
| 1,2-Dichloropropane | 50.0 | 53.8 | | ug/L | | 108 | 70 - 130 |
| cis-1,3-Dichloropropene | 50.0 | 57.5 | | ug/L | | 115 | 70 - 130 |
| trans-1,3-Dichloropropene | 50.0 | 50.7 | | ug/L | | 101 | 70 - 130 |
| Ethylbenzene | 50.0 | 55.2 | | ug/L | | 110 | 70 - 130 |
| 2-Hexanone | 100 | 104 | | ug/L | | 104 | 42 - 185 |
| Isopropylbenzene | 50.0 | 55.1 | | ug/L | | 110 | 70 - 130 |
| Methyl acetate | 50.0 | 49.9 | | ug/L | | 100 | 70 - 130 |
| Methylcyclohexane | 50.0 | 59.0 | | ug/L | | 118 | 70 - 134 |
| Methylene Chloride | 50.0 | 56.4 | | ug/L | | 113 | 67 - 130 |
| 4-Methyl-2-pentanone | 100 | 104 | | ug/L | | 104 | 70 - 130 |
| Methyl tert-butyl ether | 100 | 113 | | ug/L | | 113 | 64 - 131 |
| Styrene | 50.0 | 54.1 | | ug/L | | 108 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 52.8 | | ug/L | | 106 | 70 - 130 |
| Tetrachloroethene | 50.0 | 56.8 | | ug/L | | 114 | 70 - 130 |
| Toluene | 50.0 | 54.3 | | ug/L | | 109 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 50.0 | 57.2 | | ug/L | | 114 | 65 - 130 |
| 1,1,1-Trichloroethane | 50.0 | 52.0 | | ug/L | | 104 | 70 - 130 |
| 1,1,2-Trichloroethane | 50.0 | 52.6 | | ug/L | | 105 | 70 - 130 |
| Trichloroethene | 50.0 | 55.5 | | ug/L | | 111 | 70 - 130 |
| Trichlorofluoromethane | 50.0 | 52.5 | | ug/L | | 105 | 55 - 156 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 52.5 | | ug/L | | 105 | 60 - 135 |
| Vinyl chloride | 50.0 | 54.2 | | ug/L | | 108 | 67 - 134 |
| Xylenes, Total | 150 | 161 | | ug/L | | 108 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *105* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *106* | | *70 - 130* |
| *Dibromofluoromethane* | *113* | | *70 - 130* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-220129/28**
**Matrix: Water**
**Analysis Batch: 220129**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 100 | 90.7 | | ug/L | | 91 | 26 - 180 | 2 | 50 |
| Benzene | 50.0 | 55.4 | | ug/L | | 111 | 70 - 130 | 1 | 30 |
| Bromodichloromethane | 50.0 | 57.4 | | ug/L | | 115 | 70 - 130 | 0 | 30 |
| Bromoform | 50.0 | 47.6 | | ug/L | | 95 | 70 - 130 | 1 | 30 |
| Bromomethane | 50.0 | 49.1 | | ug/L | | 98 | 23 - 165 | 4 | 50 |
| 2-Butanone | 100 | 103 | | ug/L | | 103 | 49 - 172 | 2 | 30 |
| Carbon disulfide | 50.0 | 55.6 | | ug/L | | 111 | 54 - 132 | 3 | 30 |
| Carbon tetrachloride | 50.0 | 49.6 | | ug/L | | 99 | 70 - 130 | 1 | 30 |
| Chlorobenzene | 50.0 | 53.2 | | ug/L | | 106 | 70 - 130 | 2 | 30 |
| Chloroethane | 50.0 | 51.2 | | ug/L | | 102 | 56 - 152 | 2 | 40 |
| Chloroform | 50.0 | 56.3 | | ug/L | | 113 | 70 - 130 | 2 | 30 |
| Chloromethane | 50.0 | 59.6 | | ug/L | | 119 | 70 - 130 | 0 | 30 |
| Cyclohexane | 50.0 | 55.8 | | ug/L | | 112 | 70 - 132 | 2 | 30 |
| Dibromochloromethane | 50.0 | 49.4 | | ug/L | | 99 | 70 - 130 | 1 | 50 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 46.2 | | ug/L | | 92 | 70 - 130 | 2 | 50 |
| 1,2-Dibromoethane | 50.0 | 55.5 | | ug/L | | 111 | 70 - 130 | 3 | 30 |
| 1,2-Dichlorobenzene | 50.0 | 51.9 | | ug/L | | 104 | 70 - 130 | 3 | 30 |
| 1,3-Dichlorobenzene | 50.0 | 52.6 | | ug/L | | 105 | 70 - 130 | 2 | 30 |
| 1,4-Dichlorobenzene | 50.0 | 53.3 | | ug/L | | 107 | 70 - 130 | 1 | 30 |
| Dichlorodifluoromethane | 50.0 | 52.8 | | ug/L | | 106 | 44 - 146 | 4 | 50 |
| 1,1-Dichloroethane | 50.0 | 51.6 | | ug/L | | 103 | 70 - 130 | 1 | 30 |
| 1,2-Dichloroethane | 50.0 | 54.3 | | ug/L | | 109 | 70 - 130 | 1 | 30 |
| 1,1-Dichloroethene | 50.0 | 51.9 | | ug/L | | 104 | 66 - 131 | 2 | 30 |
| cis-1,2-Dichloroethene | 50.0 | 56.5 | | ug/L | | 113 | 70 - 130 | 1 | 30 |
| trans-1,2-Dichloroethene | 50.0 | 57.4 | | ug/L | | 115 | 70 - 130 | 3 | 30 |
| 1,2-Dichloropropane | 50.0 | 54.4 | | ug/L | | 109 | 70 - 130 | 1 | 30 |
| cis-1,3-Dichloropropene | 50.0 | 58.4 | | ug/L | | 117 | 70 - 130 | 1 | 30 |
| trans-1,3-Dichloropropene | 50.0 | 51.8 | | ug/L | | 104 | 70 - 130 | 2 | 50 |
| Ethylbenzene | 50.0 | 54.2 | | ug/L | | 108 | 70 - 130 | 2 | 30 |
| 2-Hexanone | 100 | 105 | | ug/L | | 105 | 42 - 185 | 1 | 30 |
| Isopropylbenzene | 50.0 | 54.6 | | ug/L | | 109 | 70 - 130 | 1 | 30 |
| Methyl acetate | 50.0 | 49.6 | | ug/L | | 99 | 70 - 130 | 1 | 30 |
| Methylcyclohexane | 50.0 | 58.8 | | ug/L | | 118 | 70 - 134 | 0 | 30 |
| Methylene Chloride | 50.0 | 55.6 | | ug/L | | 111 | 67 - 130 | 2 | 30 |
| 4-Methyl-2-pentanone | 100 | 107 | | ug/L | | 107 | 70 - 130 | 3 | 30 |
| Methyl tert-butyl ether | 100 | 113 | | ug/L | | 113 | 64 - 131 | 0 | 30 |
| Styrene | 50.0 | 54.5 | | ug/L | | 109 | 70 - 130 | 1 | 30 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 53.3 | | ug/L | | 107 | 70 - 130 | 1 | 30 |
| Tetrachloroethene | 50.0 | 55.9 | | ug/L | | 112 | 70 - 130 | 2 | 30 |
| Toluene | 50.0 | 54.7 | | ug/L | | 109 | 70 - 130 | 1 | 30 |
| 1,2,4-Trichlorobenzene | 50.0 | 56.4 | | ug/L | | 113 | 65 - 130 | 2 | 30 |
| 1,1,1-Trichloroethane | 50.0 | 51.3 | | ug/L | | 103 | 70 - 130 | 1 | 30 |
| 1,1,2-Trichloroethane | 50.0 | 52.6 | | ug/L | | 105 | 70 - 130 | 0 | 30 |
| Trichloroethene | 50.0 | 54.8 | | ug/L | | 110 | 70 - 130 | 1 | 30 |
| Trichlorofluoromethane | 50.0 | 51.4 | | ug/L | | 103 | 55 - 156 | 2 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 51.1 | | ug/L | | 102 | 60 - 135 | 3 | 30 |
| Vinyl chloride | 50.0 | 54.3 | | ug/L | | 109 | 67 - 134 | 0 | 30 |
| Xylenes, Total | 150 | 159 | | ug/L | | 106 | 70 - 130 | 1 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-220129/28**
**Matrix: Water**
**Analysis Batch: 220129**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| *4-Bromofluorobenzene* | *103* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *106* | | *70 - 130* |
| *Dibromofluoromethane* | *112* | | *70 - 130* |

**Lab Sample ID: MB 680-220251/24**
**Matrix: Water**
**Analysis Batch: 220251**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/07/11 01:55 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 01:55 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 01:55 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 01:55 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/07/11 01:55 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/07/11 01:55 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/07/11 01:55 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 01:55 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 01:55 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/07/11 01:55 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/07/11 01:55 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/07/11 01:55 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 01:55 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/07/11 01:55 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/07/11 01:55 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/07/11 01:55 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/07/11 01:55 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/07/11 01:55 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/07/11 01:55 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/07/11 01:55 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/07/11 01:55 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 01:55 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/07/11 01:55 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/07/11 01:55 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/07/11 01:55 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/07/11 01:55 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/07/11 01:55 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/07/11 01:55 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/07/11 01:55 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/07/11 01:55 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-220251/24**
**Matrix: Water**
**Analysis Batch: 220251**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/07/11 01:55 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/07/11 01:55 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/07/11 01:55 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/07/11 01:55 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/07/11 01:55 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/07/11 01:55 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene* | *98* | | *70 - 130* | | *11/07/11 01:55* | *1* |
| *Toluene-d8 (Surr)* | *104* | | *70 - 130* | | *11/07/11 01:55* | *1* |
| *Dibromofluoromethane* | *92* | | *70 - 130* | | *11/07/11 01:55* | *1* |

**Lab Sample ID: LCS 680-220251/21**
**Matrix: Water**
**Analysis Batch: 220251**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acetone | 100 | 78.0 | | ug/L | | 78 | 26 - 180 |
| Benzene | 50.0 | 48.3 | | ug/L | | 97 | 70 - 130 |
| Bromodichloromethane | 50.0 | 54.8 | | ug/L | | 110 | 70 - 130 |
| Bromoform | 50.0 | 44.3 | | ug/L | | 89 | 70 - 130 |
| Bromomethane | 50.0 | 31.4 | | ug/L | | 63 | 23 - 165 |
| 2-Butanone | 100 | 77.6 | | ug/L | | 78 | 49 - 172 |
| Carbon disulfide | 50.0 | 41.8 | | ug/L | | 84 | 54 - 132 |
| Carbon tetrachloride | 50.0 | 49.7 | | ug/L | | 99 | 70 - 130 |
| Chlorobenzene | 50.0 | 49.4 | | ug/L | | 99 | 70 - 130 |
| Chloroethane | 50.0 | 50.6 | | ug/L | | 101 | 56 - 152 |
| Chloroform | 50.0 | 47.5 | | ug/L | | 95 | 70 - 130 |
| Chloromethane | 50.0 | 31.9 | * | ug/L | | 64 | 70 - 130 |
| Cyclohexane | 50.0 | 48.6 | | ug/L | | 97 | 70 - 132 |
| Dibromochloromethane | 50.0 | 55.6 | | ug/L | | 111 | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 43.0 | | ug/L | | 86 | 70 - 130 |
| 1,2-Dibromoethane | 50.0 | 52.2 | | ug/L | | 104 | 70 - 130 |
| 1,2-Dichlorobenzene | 50.0 | 50.9 | | ug/L | | 102 | 70 - 130 |
| 1,3-Dichlorobenzene | 50.0 | 49.8 | | ug/L | | 100 | 70 - 130 |
| 1,4-Dichlorobenzene | 50.0 | 49.8 | | ug/L | | 100 | 70 - 130 |
| Dichlorodifluoromethane | 50.0 | 46.4 | | ug/L | | 93 | 44 - 146 |
| 1,1-Dichloroethane | 50.0 | 44.9 | | ug/L | | 90 | 70 - 130 |
| 1,2-Dichloroethane | 50.0 | 53.1 | | ug/L | | 106 | 70 - 130 |
| 1,1-Dichloroethene | 50.0 | 46.5 | | ug/L | | 93 | 66 - 131 |
| cis-1,2-Dichloroethene | 50.0 | 46.5 | | ug/L | | 93 | 70 - 130 |
| trans-1,2-Dichloroethene | 50.0 | 45.0 | | ug/L | | 90 | 70 - 130 |
| 1,2-Dichloropropane | 50.0 | 47.3 | | ug/L | | 95 | 70 - 130 |
| cis-1,3-Dichloropropene | 50.0 | 54.6 | | ug/L | | 109 | 70 - 130 |
| trans-1,3-Dichloropropene | 50.0 | 55.7 | | ug/L | | 111 | 70 - 130 |
| Ethylbenzene | 50.0 | 48.3 | | ug/L | | 97 | 70 - 130 |
| 2-Hexanone | 100 | 89.1 | | ug/L | | 89 | 42 - 185 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-220251/21**
**Matrix: Water**
**Analysis Batch: 220251**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Isopropylbenzene | | | 50.0 | 44.6 | | ug/L | | 89 | 70 - 130 | | |
| Methyl acetate | | | 50.0 | 37.7 | | ug/L | | 75 | 70 - 130 | | |
| Methylcyclohexane | | | 50.0 | 50.0 | | ug/L | | 100 | 70 - 134 | | |
| Methylene Chloride | | | 50.0 | 43.0 | | ug/L | | 86 | 67 - 130 | | |
| 4-Methyl-2-pentanone | | | 100 | 91.9 | | ug/L | | 92 | 70 - 130 | | |
| Methyl tert-butyl ether | | | 100 | 94.6 | | ug/L | | 95 | 64 - 131 | | |
| Styrene | | | 50.0 | 49.3 | | ug/L | | 99 | 70 - 130 | | |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 43.3 | | ug/L | | 87 | 70 - 130 | | |
| Tetrachloroethene | | | 50.0 | 52.7 | | ug/L | | 105 | 70 - 130 | | |
| Toluene | | | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 | | |
| 1,2,4-Trichlorobenzene | | | 50.0 | 56.2 | | ug/L | | 112 | 65 - 130 | | |
| 1,1,1-Trichloroethane | | | 50.0 | 56.5 | | ug/L | | 113 | 70 - 130 | | |
| 1,1,2-Trichloroethane | | | 50.0 | 48.6 | | ug/L | | 97 | 70 - 130 | | |
| Trichloroethene | | | 50.0 | 52.8 | | ug/L | | 106 | 70 - 130 | | |
| Trichlorofluoromethane | | | 50.0 | 48.3 | | ug/L | | 97 | 55 - 156 | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 46.4 | | ug/L | | 93 | 60 - 135 | | |
| Vinyl chloride | | | 50.0 | 40.4 | | ug/L | | 81 | 67 - 134 | | |
| Xylenes, Total | | | 150 | 145 | | ug/L | | 96 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *97* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* |
| *Dibromofluoromethane* | *98* | | *70 - 130* |

**Lab Sample ID: LCSD 680-220251/22**
**Matrix: Water**
**Analysis Batch: 220251**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | | | 100 | 79.3 | | ug/L | | 79 | 26 - 180 | 2 | 50 |
| Benzene | | | 50.0 | 47.2 | | ug/L | | 94 | 70 - 130 | 2 | 30 |
| Bromodichloromethane | | | 50.0 | 53.5 | | ug/L | | 107 | 70 - 130 | 2 | 30 |
| Bromoform | | | 50.0 | 46.4 | | ug/L | | 93 | 70 - 130 | 5 | 30 |
| Bromomethane | | | 50.0 | 36.3 | | ug/L | | 73 | 23 - 165 | 15 | 50 |
| 2-Butanone | | | 100 | 75.1 | | ug/L | | 75 | 49 - 172 | 3 | 30 |
| Carbon disulfide | | | 50.0 | 43.5 | | ug/L | | 87 | 54 - 132 | 4 | 30 |
| Carbon tetrachloride | | | 50.0 | 50.1 | | ug/L | | 100 | 70 - 130 | 1 | 30 |
| Chlorobenzene | | | 50.0 | 51.1 | | ug/L | | 102 | 70 - 130 | 3 | 30 |
| Chloroethane | | | 50.0 | 53.4 | | ug/L | | 107 | 56 - 152 | 5 | 40 |
| Chloroform | | | 50.0 | 49.0 | | ug/L | | 98 | 70 - 130 | 3 | 30 |
| Chloromethane | | | 50.0 | 32.4 | * | ug/L | | 65 | 70 - 130 | 2 | 30 |
| Cyclohexane | | | 50.0 | 46.4 | | ug/L | | 93 | 70 - 132 | 5 | 30 |
| Dibromochloromethane | | | 50.0 | 57.6 | | ug/L | | 115 | 70 - 130 | 4 | 50 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 43.9 | | ug/L | | 88 | 70 - 130 | 2 | 50 |
| 1,2-Dibromoethane | | | 50.0 | 50.8 | | ug/L | | 102 | 70 - 130 | 3 | 30 |
| 1,2-Dichlorobenzene | | | 50.0 | 53.9 | | ug/L | | 108 | 70 - 130 | 6 | 30 |
| 1,3-Dichlorobenzene | | | 50.0 | 53.1 | | ug/L | | 106 | 70 - 130 | 6 | 30 |
| 1,4-Dichlorobenzene | | | 50.0 | 53.2 | | ug/L | | 106 | 70 - 130 | 7 | 30 |
| Dichlorodifluoromethane | | | 50.0 | 48.8 | | ug/L | | 98 | 44 - 146 | 5 | 50 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-220251/22**
**Matrix: Water**
**Analysis Batch: 220251**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | | | 50.0 | 45.8 | | ug/L | | 92 | 70 - 130 | 2 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 50.4 | | ug/L | | 101 | 70 - 130 | 5 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 49.4 | | ug/L | | 99 | 66 - 131 | 6 | 30 |
| cis-1,2-Dichloroethene | | | 50.0 | 48.1 | | ug/L | | 96 | 70 - 130 | 3 | 30 |
| trans-1,2-Dichloroethene | | | 50.0 | 47.6 | | ug/L | | 95 | 70 - 130 | 6 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 45.7 | | ug/L | | 91 | 70 - 130 | 3 | 30 |
| cis-1,3-Dichloropropene | | | 50.0 | 52.7 | | ug/L | | 105 | 70 - 130 | 4 | 30 |
| trans-1,3-Dichloropropene | | | 50.0 | 54.3 | | ug/L | | 109 | 70 - 130 | 3 | 50 |
| Ethylbenzene | | | 50.0 | 49.4 | | ug/L | | 99 | 70 - 130 | 2 | 30 |
| 2-Hexanone | | | 100 | 82.7 | | ug/L | | 83 | 42 - 185 | 7 | 30 |
| Isopropylbenzene | | | 50.0 | 46.2 | | ug/L | | 92 | 70 - 130 | 3 | 30 |
| Methyl acetate | | | 50.0 | 37.3 | | ug/L | | 75 | 70 - 130 | 1 | 30 |
| Methylcyclohexane | | | 50.0 | 49.2 | | ug/L | | 98 | 70 - 134 | 2 | 30 |
| Methylene Chloride | | | 50.0 | 45.0 | | ug/L | | 90 | 67 - 130 | 5 | 30 |
| 4-Methyl-2-pentanone | | | 100 | 84.1 | | ug/L | | 84 | 70 - 130 | 9 | 30 |
| Methyl tert-butyl ether | | | 100 | 97.6 | | ug/L | | 98 | 64 - 131 | 3 | 30 |
| Styrene | | | 50.0 | 51.7 | | ug/L | | 103 | 70 - 130 | 5 | 30 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 43.2 | | ug/L | | 86 | 70 - 130 | 0 | 30 |
| Tetrachloroethene | | | 50.0 | 56.0 | | ug/L | | 112 | 70 - 130 | 6 | 30 |
| Toluene | | | 50.0 | 50.1 | | ug/L | | 100 | 70 - 130 | 0 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 60.5 | | ug/L | | 121 | 65 - 130 | 7 | 30 |
| 1,1,1-Trichloroethane | | | 50.0 | 56.0 | | ug/L | | 112 | 70 - 130 | 1 | 30 |
| 1,1,2-Trichloroethane | | | 50.0 | 46.7 | | ug/L | | 93 | 70 - 130 | 4 | 30 |
| Trichloroethene | | | 50.0 | 52.2 | | ug/L | | 104 | 70 - 130 | 1 | 30 |
| Trichlorofluoromethane | | | 50.0 | 51.1 | | ug/L | | 102 | 55 - 156 | 6 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 48.7 | | ug/L | | 97 | 60 - 135 | 5 | 30 |
| Vinyl chloride | | | 50.0 | 42.1 | | ug/L | | 84 | 67 - 134 | 4 | 30 |
| Xylenes, Total | | | 150 | 149 | | ug/L | | 100 | 70 - 130 | 3 | 30 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *99* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* |
| *Dibromofluoromethane* | *103* | | *70 - 130* |

**Lab Sample ID: MB 680-220477/10**
**Matrix: Water**
**Analysis Batch: 220477**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/06/11 14:36 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 14:36 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 14:36 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/06/11 14:36 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/06/11 14:36 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/06/11 14:36 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/06/11 14:36 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/06/11 14:36 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 14:36 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/06/11 14:36 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-220477/10**
**Matrix: Water**
**Analysis Batch: 220477**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/06/11 14:36 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/06/11 14:36 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 14:36 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/06/11 14:36 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/06/11 14:36 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/06/11 14:36 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/06/11 14:36 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/06/11 14:36 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/06/11 14:36 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/06/11 14:36 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/06/11 14:36 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/06/11 14:36 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/06/11 14:36 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/06/11 14:36 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/06/11 14:36 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/06/11 14:36 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/06/11 14:36 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/06/11 14:36 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/06/11 14:36 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/06/11 14:36 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/06/11 14:36 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/06/11 14:36 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/06/11 14:36 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/06/11 14:36 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/06/11 14:36 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene* | *102* | | *70 - 130* | | *11/06/11 14:36* | *1* |
| *Toluene-d8 (Surr)* | *104* | | *70 - 130* | | *11/06/11 14:36* | *1* |
| *Dibromofluoromethane* | *105* | | *70 - 130* | | *11/06/11 14:36* | *1* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-220477/7**
**Matrix: Water**
**Analysis Batch: 220477**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acetone | 100 | 121 | | ug/L | | 121 | 26 - 180 |
| Benzene | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 |
| Bromodichloromethane | 50.0 | 50.7 | | ug/L | | 101 | 70 - 130 |
| Bromoform | 50.0 | 48.5 | | ug/L | | 97 | 70 - 130 |
| Bromomethane | 50.0 | 9.09 | * | ug/L | | 18 | 23 - 165 |
| 2-Butanone | 100 | 109 | | ug/L | | 109 | 49 - 172 |
| Carbon disulfide | 50.0 | 55.5 | | ug/L | | 111 | 54 - 132 |
| Carbon tetrachloride | 50.0 | 41.3 | | ug/L | | 83 | 70 - 130 |
| Chlorobenzene | 50.0 | 51.4 | | ug/L | | 103 | 70 - 130 |
| Chloroethane | 50.0 | 43.3 | | ug/L | | 87 | 56 - 152 |
| Chloroform | 50.0 | 53.1 | | ug/L | | 106 | 70 - 130 |
| Chloromethane | 50.0 | 35.5 | | ug/L | | 71 | 70 - 130 |
| Cyclohexane | 50.0 | 43.7 | | ug/L | | 87 | 70 - 132 |
| Dibromochloromethane | 50.0 | 42.6 | | ug/L | | 85 | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 44.3 | | ug/L | | 89 | 70 - 130 |
| 1,2-Dibromoethane | 50.0 | 51.1 | | ug/L | | 102 | 70 - 130 |
| 1,2-Dichlorobenzene | 50.0 | 42.7 | | ug/L | | 85 | 70 - 130 |
| 1,3-Dichlorobenzene | 50.0 | 38.7 | | ug/L | | 77 | 70 - 130 |
| 1,4-Dichlorobenzene | 50.0 | 42.5 | | ug/L | | 85 | 70 - 130 |
| Dichlorodifluoromethane | 50.0 | 59.0 | | ug/L | | 118 | 44 - 146 |
| 1,1-Dichloroethane | 50.0 | 54.2 | | ug/L | | 108 | 70 - 130 |
| 1,2-Dichloroethane | 50.0 | 48.5 | | ug/L | | 97 | 70 - 130 |
| 1,1-Dichloroethene | 50.0 | 55.7 | | ug/L | | 111 | 66 - 131 |
| cis-1,2-Dichloroethene | 50.0 | 55.4 | | ug/L | | 111 | 70 - 130 |
| trans-1,2-Dichloroethene | 50.0 | 56.0 | | ug/L | | 112 | 70 - 130 |
| 1,2-Dichloropropane | 50.0 | 48.7 | | ug/L | | 97 | 70 - 130 |
| cis-1,3-Dichloropropene | 50.0 | 52.1 | | ug/L | | 104 | 70 - 130 |
| trans-1,3-Dichloropropene | 50.0 | 51.3 | | ug/L | | 103 | 70 - 130 |
| Ethylbenzene | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 |
| 2-Hexanone | 100 | 101 | | ug/L | | 101 | 42 - 185 |
| Isopropylbenzene | 50.0 | 43.4 | | ug/L | | 87 | 70 - 130 |
| Methyl acetate | 50.0 | 50.1 | | ug/L | | 100 | 70 - 130 |
| Methylcyclohexane | 50.0 | 44.3 | | ug/L | | 89 | 70 - 134 |
| Methylene Chloride | 50.0 | 51.6 | | ug/L | | 103 | 67 - 130 |
| 4-Methyl-2-pentanone | 100 | 93.4 | | ug/L | | 93 | 70 - 130 |
| Methyl tert-butyl ether | 100 | 102 | | ug/L | | 102 | 64 - 131 |
| Styrene | 50.0 | 41.9 | | ug/L | | 84 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 50.6 | | ug/L | | 101 | 70 - 130 |
| Tetrachloroethene | 50.0 | 52.3 | | ug/L | | 105 | 70 - 130 |
| Toluene | 50.0 | 49.7 | | ug/L | | 99 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 50.0 | 53.0 | | ug/L | | 106 | 65 - 130 |
| 1,1,1-Trichloroethane | 50.0 | 39.4 | | ug/L | | 79 | 70 - 130 |
| 1,1,2-Trichloroethane | 50.0 | 48.7 | | ug/L | | 97 | 70 - 130 |
| Trichloroethene | 50.0 | 52.6 | | ug/L | | 105 | 70 - 130 |
| Trichlorofluoromethane | 50.0 | 58.9 | | ug/L | | 118 | 55 - 156 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 57.6 | | ug/L | | 115 | 60 - 135 |
| Vinyl chloride | 50.0 | 44.4 | | ug/L | | 89 | 67 - 134 |
| Xylenes, Total | 150 | 122 | | ug/L | | 81 | 70 - 130 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-220477/7**
**Matrix: Water**
**Analysis Batch: 220477**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *103* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |
| *Dibromofluoromethane* | *108* | | *70 - 130* |

**Lab Sample ID: LCSD 680-220477/8**
**Matrix: Water**
**Analysis Batch: 220477**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | | | 100 | 110 | | ug/L | | 110 | 26 - 180 | 9 | 50 |
| Benzene | | | 50.0 | 51.4 | | ug/L | | 103 | 70 - 130 | 2 | 30 |
| Bromodichloromethane | | | 50.0 | 51.1 | | ug/L | | 102 | 70 - 130 | 1 | 30 |
| Bromoform | | | 50.0 | 49.2 | | ug/L | | 98 | 70 - 130 | 1 | 30 |
| Bromomethane | | | 50.0 | 11.6 | | ug/L | | 23 | 23 - 165 | 25 | 50 |
| 2-Butanone | | | 100 | 104 | | ug/L | | 104 | 49 - 172 | 4 | 30 |
| Carbon disulfide | | | 50.0 | 54.1 | | ug/L | | 108 | 54 - 132 | 3 | 30 |
| Carbon tetrachloride | | | 50.0 | 42.4 | | ug/L | | 85 | 70 - 130 | 3 | 30 |
| Chlorobenzene | | | 50.0 | 52.9 | | ug/L | | 106 | 70 - 130 | 3 | 30 |
| Chloroethane | | | 50.0 | 39.0 | | ug/L | | 78 | 56 - 152 | 10 | 40 |
| Chloroform | | | 50.0 | 51.9 | | ug/L | | 104 | 70 - 130 | 2 | 30 |
| Chloromethane | | | 50.0 | 36.4 | | ug/L | | 73 | 70 - 130 | 3 | 30 |
| Cyclohexane | | | 50.0 | 43.4 | | ug/L | | 87 | 70 - 132 | 1 | 30 |
| Dibromochloromethane | | | 50.0 | 44.3 | | ug/L | | 89 | 70 - 130 | 4 | 50 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 45.2 | | ug/L | | 90 | 70 - 130 | 2 | 50 |
| 1,2-Dibromoethane | | | 50.0 | 51.2 | | ug/L | | 102 | 70 - 130 | 0 | 30 |
| 1,2-Dichlorobenzene | | | 50.0 | 43.9 | | ug/L | | 88 | 70 - 130 | 3 | 30 |
| 1,3-Dichlorobenzene | | | 50.0 | 39.0 | | ug/L | | 78 | 70 - 130 | 1 | 30 |
| 1,4-Dichlorobenzene | | | 50.0 | 43.2 | | ug/L | | 86 | 70 - 130 | 2 | 30 |
| Dichlorodifluoromethane | | | 50.0 | 58.2 | | ug/L | | 116 | 44 - 146 | 1 | 50 |
| 1,1-Dichloroethane | | | 50.0 | 54.0 | | ug/L | | 108 | 70 - 130 | 1 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 49.1 | | ug/L | | 98 | 70 - 130 | 1 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 55.6 | | ug/L | | 111 | 66 - 131 | 0 | 30 |
| cis-1,2-Dichloroethene | | | 50.0 | 55.8 | | ug/L | | 112 | 70 - 130 | 1 | 30 |
| trans-1,2-Dichloroethene | | | 50.0 | 55.5 | | ug/L | | 111 | 70 - 130 | 1 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 49.4 | | ug/L | | 99 | 70 - 130 | 1 | 30 |
| cis-1,3-Dichloropropene | | | 50.0 | 53.4 | | ug/L | | 107 | 70 - 130 | 2 | 30 |
| trans-1,3-Dichloropropene | | | 50.0 | 51.6 | | ug/L | | 103 | 70 - 130 | 1 | 50 |
| Ethylbenzene | | | 50.0 | 51.3 | | ug/L | | 103 | 70 - 130 | 2 | 30 |
| 2-Hexanone | | | 100 | 102 | | ug/L | | 102 | 42 - 185 | 1 | 30 |
| Isopropylbenzene | | | 50.0 | 43.6 | | ug/L | | 87 | 70 - 130 | 0 | 30 |
| Methyl acetate | | | 50.0 | 50.1 | | ug/L | | 100 | 70 - 130 | 0 | 30 |
| Methylcyclohexane | | | 50.0 | 44.0 | | ug/L | | 88 | 70 - 134 | 1 | 30 |
| Methylene Chloride | | | 50.0 | 52.6 | | ug/L | | 105 | 67 - 130 | 2 | 30 |
| 4-Methyl-2-pentanone | | | 100 | 95.7 | | ug/L | | 96 | 70 - 130 | 2 | 30 |
| Methyl tert-butyl ether | | | 100 | 104 | | ug/L | | 104 | 64 - 131 | 2 | 30 |
| Styrene | | | 50.0 | 42.4 | | ug/L | | 85 | 70 - 130 | 1 | 30 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 50.7 | | ug/L | | 101 | 70 - 130 | 0 | 30 |
| Tetrachloroethene | | | 50.0 | 54.0 | | ug/L | | 108 | 70 - 130 | 3 | 30 |
| Toluene | | | 50.0 | 51.8 | | ug/L | | 104 | 70 - 130 | 4 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-220477/8**
**Matrix: Water**
**Analysis Batch: 220477**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | | | 50.0 | 55.8 | | ug/L | | 112 | 65 - 130 | 5 | 30 |
| 1,1,1-Trichloroethane | | | 50.0 | 40.4 | | ug/L | | 81 | 70 - 130 | 3 | 30 |
| 1,1,2-Trichloroethane | | | 50.0 | 50.7 | | ug/L | | 101 | 70 - 130 | 4 | 30 |
| Trichloroethene | | | 50.0 | 53.4 | | ug/L | | 107 | 70 - 130 | 2 | 30 |
| Trichlorofluoromethane | | | 50.0 | 56.4 | | ug/L | | 113 | 55 - 156 | 4 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 56.4 | | ug/L | | 113 | 60 - 135 | 2 | 30 |
| Vinyl chloride | | | 50.0 | 42.1 | | ug/L | | 84 | 67 - 134 | 5 | 30 |
| Xylenes, Total | | | 150 | 125 | | ug/L | | 83 | 70 - 130 | 2 | 30 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *105* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* |
| *Dibromofluoromethane* | *107* | | *70 - 130* |

**Lab Sample ID: MB 680-220479/10**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/09/11 12:22 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 12:22 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/09/11 12:22 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 12:22 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/09/11 12:22 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 12:22 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/09/11 12:22 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/09/11 12:22 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/09/11 12:22 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/09/11 12:22 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 12:22 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/09/11 12:22 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 12:22 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 12:22 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/09/11 12:22 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 12:22 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 12:22 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-220479/10**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 12:22 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/09/11 12:22 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 12:22 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/09/11 12:22 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 12:22 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/09/11 12:22 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/09/11 12:22 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/09/11 12:22 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2,4-Trichlorobenzene | 0.345 | J | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 12:22 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 12:22 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 12:22 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/09/11 12:22 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/09/11 12:22 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene* | *99* | | *70 - 130* | | *11/09/11 12:22* | *1* |
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *11/09/11 12:22* | *1* |
| *Dibromofluoromethane* | *99* | | *70 - 130* | | *11/09/11 12:22* | *1* |

**Lab Sample ID: LCS 680-220479/7**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acetone | 100 | 125 | | ug/L | | 125 | 26 - 180 |
| Benzene | 50.0 | 48.3 | | ug/L | | 97 | 70 - 130 |
| Bromodichloromethane | 50.0 | 50.6 | | ug/L | | 101 | 70 - 130 |
| Bromoform | 50.0 | 54.5 | | ug/L | | 109 | 70 - 130 |
| Bromomethane | 50.0 | 37.0 | | ug/L | | 74 | 23 - 165 |
| 2-Butanone | 100 | 115 | | ug/L | | 115 | 49 - 172 |
| Carbon disulfide | 50.0 | 49.8 | | ug/L | | 100 | 54 - 132 |
| Carbon tetrachloride | 50.0 | 51.8 | | ug/L | | 104 | 70 - 130 |
| Chlorobenzene | 50.0 | 47.2 | | ug/L | | 94 | 70 - 130 |
| Chloroethane | 50.0 | 47.6 | | ug/L | | 95 | 56 - 152 |
| Chloroform | 50.0 | 50.1 | | ug/L | | 100 | 70 - 130 |
| Chloromethane | 50.0 | 50.4 | | ug/L | | 101 | 70 - 130 |
| Cyclohexane | 50.0 | 49.7 | | ug/L | | 99 | 70 - 132 |
| Dibromochloromethane | 50.0 | 52.7 | | ug/L | | 105 | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 48.2 | | ug/L | | 96 | 70 - 130 |
| 1,2-Dibromoethane | 50.0 | 51.8 | | ug/L | | 104 | 70 - 130 |
| 1,2-Dichlorobenzene | 50.0 | 61.2 | | ug/L | | 122 | 70 - 130 |
| 1,3-Dichlorobenzene | 50.0 | 46.0 | | ug/L | | 92 | 70 - 130 |
| 1,4-Dichlorobenzene | 50.0 | 48.9 | | ug/L | | 98 | 70 - 130 |
| Dichlorodifluoromethane | 50.0 | 46.6 | | ug/L | | 93 | 44 - 146 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-220479/7**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 50.0 | 48.4 | | ug/L | | 97 | 70 - 130 |
| 1,2-Dichloroethane | 50.0 | 48.7 | | ug/L | | 97 | 70 - 130 |
| 1,1-Dichloroethene | 50.0 | 49.3 | | ug/L | | 99 | 66 - 131 |
| cis-1,2-Dichloroethene | 50.0 | 48.8 | | ug/L | | 98 | 70 - 130 |
| trans-1,2-Dichloroethene | 50.0 | 50.1 | | ug/L | | 100 | 70 - 130 |
| 1,2-Dichloropropane | 50.0 | 49.2 | | ug/L | | 98 | 70 - 130 |
| cis-1,3-Dichloropropene | 50.0 | 51.5 | | ug/L | | 103 | 70 - 130 |
| trans-1,3-Dichloropropene | 50.0 | 53.1 | | ug/L | | 106 | 70 - 130 |
| Ethylbenzene | 50.0 | 47.1 | | ug/L | | 94 | 70 - 130 |
| 2-Hexanone | 100 | 109 | | ug/L | | 109 | 42 - 185 |
| Isopropylbenzene | 50.0 | 48.3 | | ug/L | | 97 | 70 - 130 |
| Methyl acetate | 50.0 | 46.0 | | ug/L | | 92 | 70 - 130 |
| Methylcyclohexane | 50.0 | 52.7 | | ug/L | | 105 | 70 - 134 |
| Methylene Chloride | 50.0 | 49.0 | | ug/L | | 98 | 67 - 130 |
| 4-Methyl-2-pentanone | 100 | 103 | | ug/L | | 103 | 70 - 130 |
| Methyl tert-butyl ether | 100 | 102 | | ug/L | | 102 | 64 - 131 |
| Styrene | 50.0 | 48.5 | | ug/L | | 97 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 49.1 | | ug/L | | 98 | 70 - 130 |
| Tetrachloroethene | 50.0 | 48.0 | | ug/L | | 96 | 70 - 130 |
| Toluene | 50.0 | 48.5 | | ug/L | | 97 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 50.0 | 66.4 | * | ug/L | | 133 | 65 - 130 |
| 1,1,1-Trichloroethane | 50.0 | 50.6 | | ug/L | | 101 | 70 - 130 |
| 1,1,2-Trichloroethane | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 |
| Trichloroethene | 50.0 | 48.6 | | ug/L | | 97 | 70 - 130 |
| Trichlorofluoromethane | 50.0 | 50.8 | | ug/L | | 102 | 55 - 156 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 49.1 | | ug/L | | 98 | 60 - 135 |
| Vinyl chloride | 50.0 | 49.4 | | ug/L | | 99 | 67 - 134 |
| Xylenes, Total | 150 | 143 | | ug/L | | 95 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *91* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *96* | | *70 - 130* |
| *Dibromofluoromethane* | *98* | | *70 - 130* |

**Lab Sample ID: LCSD 680-220479/8**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 100 | 131 | | ug/L | | 131 | 26 - 180 | 5 | 50 |
| Benzene | 50.0 | 50.4 | | ug/L | | 101 | 70 - 130 | 4 | 30 |
| Bromodichloromethane | 50.0 | 52.1 | | ug/L | | 104 | 70 - 130 | 3 | 30 |
| Bromoform | 50.0 | 55.0 | | ug/L | | 110 | 70 - 130 | 1 | 30 |
| Bromomethane | 50.0 | 50.8 | | ug/L | | 102 | 23 - 165 | 31 | 50 |
| 2-Butanone | 100 | 119 | | ug/L | | 119 | 49 - 172 | 3 | 30 |
| Carbon disulfide | 50.0 | 50.6 | | ug/L | | 101 | 54 - 132 | 1 | 30 |
| Carbon tetrachloride | 50.0 | 53.1 | | ug/L | | 106 | 70 - 130 | 2 | 30 |
| Chlorobenzene | 50.0 | 48.7 | | ug/L | | 97 | 70 - 130 | 3 | 30 |
| Chloroethane | 50.0 | 49.4 | | ug/L | | 99 | 56 - 152 | 4 | 40 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-220479/8**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloroform | | | 50.0 | 50.4 | | ug/L | | 101 | 70 - 130 | 1 | 30 |
| Chloromethane | | | 50.0 | 51.8 | | ug/L | | 104 | 70 - 130 | 3 | 30 |
| Cyclohexane | | | 50.0 | 52.1 | | ug/L | | 104 | 70 - 132 | 5 | 30 |
| Dibromochloromethane | | | 50.0 | 53.8 | | ug/L | | 108 | 70 - 130 | 2 | 50 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 49.7 | | ug/L | | 99 | 70 - 130 | 3 | 50 |
| 1,2-Dibromoethane | | | 50.0 | 53.9 | | ug/L | | 108 | 70 - 130 | 4 | 30 |
| 1,2-Dichlorobenzene | | | 50.0 | 63.6 | | ug/L | | 127 | 70 - 130 | 4 | 30 |
| 1,3-Dichlorobenzene | | | 50.0 | 46.8 | | ug/L | | 94 | 70 - 130 | 2 | 30 |
| 1,4-Dichlorobenzene | | | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 | 3 | 30 |
| Dichlorodifluoromethane | | | 50.0 | 46.7 | | ug/L | | 93 | 44 - 146 | 0 | 50 |
| 1,1-Dichloroethane | | | 50.0 | 49.8 | | ug/L | | 100 | 70 - 130 | 3 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 49.8 | | ug/L | | 100 | 70 - 130 | 2 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 51.2 | | ug/L | | 102 | 66 - 131 | 4 | 30 |
| cis-1,2-Dichloroethene | | | 50.0 | 50.0 | | ug/L | | 100 | 70 - 130 | 2 | 30 |
| trans-1,2-Dichloroethene | | | 50.0 | 50.7 | | ug/L | | 101 | 70 - 130 | 1 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 50.8 | | ug/L | | 102 | 70 - 130 | 3 | 30 |
| cis-1,3-Dichloropropene | | | 50.0 | 52.1 | | ug/L | | 104 | 70 - 130 | 1 | 30 |
| trans-1,3-Dichloropropene | | | 50.0 | 53.9 | | ug/L | | 108 | 70 - 130 | 2 | 50 |
| Ethylbenzene | | | 50.0 | 48.5 | | ug/L | | 97 | 70 - 130 | 3 | 30 |
| 2-Hexanone | | | 100 | 111 | | ug/L | | 111 | 42 - 185 | 2 | 30 |
| Isopropylbenzene | | | 50.0 | 48.9 | | ug/L | | 98 | 70 - 130 | 1 | 30 |
| Methyl acetate | | | 50.0 | 46.9 | | ug/L | | 94 | 70 - 130 | 2 | 30 |
| Methylcyclohexane | | | 50.0 | 54.3 | | ug/L | | 109 | 70 - 134 | 3 | 30 |
| Methylene Chloride | | | 50.0 | 51.0 | | ug/L | | 102 | 67 - 130 | 4 | 30 |
| 4-Methyl-2-pentanone | | | 100 | 105 | | ug/L | | 105 | 70 - 130 | 3 | 30 |
| Methyl tert-butyl ether | | | 100 | 105 | | ug/L | | 105 | 64 - 131 | 3 | 30 |
| Styrene | | | 50.0 | 49.8 | | ug/L | | 100 | 70 - 130 | 3 | 30 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 50.0 | | ug/L | | 100 | 70 - 130 | 2 | 30 |
| Tetrachloroethene | | | 50.0 | 47.3 | | ug/L | | 95 | 70 - 130 | 1 | 30 |
| Toluene | | | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 | 4 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 68.6 | * | ug/L | | 137 | 65 - 130 | 3 | 30 |
| 1,1,1-Trichloroethane | | | 50.0 | 51.6 | | ug/L | | 103 | 70 - 130 | 2 | 30 |
| 1,1,2-Trichloroethane | | | 50.0 | 52.3 | | ug/L | | 105 | 70 - 130 | 4 | 30 |
| Trichloroethene | | | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 | 3 | 30 |
| Trichlorofluoromethane | | | 50.0 | 52.8 | | ug/L | | 106 | 55 - 156 | 4 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | | | 50.0 | 50.1 | | ug/L | | 100 | 60 - 135 | 2 | 30 |
| Vinyl chloride | | | 50.0 | 52.7 | | ug/L | | 105 | 67 - 134 | 6 | 30 |
| Xylenes, Total | | | 150 | 145 | | ug/L | | 97 | 70 - 130 | 1 | 30 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *91* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |
| *Dibromofluoromethane* | *98* | | *70 - 130* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-220514/7**
**Matrix: Water**
**Analysis Batch: 220514**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/09/11 16:38 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:38 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:38 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 16:38 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/09/11 16:38 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 16:38 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/09/11 16:38 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 16:38 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:38 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/09/11 16:38 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/09/11 16:38 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/09/11 16:38 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:38 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/09/11 16:38 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 16:38 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/09/11 16:38 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 16:38 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 16:38 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/09/11 16:38 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 16:38 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 16:38 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 16:38 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/09/11 16:38 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 16:38 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/09/11 16:38 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 16:38 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/09/11 16:38 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/09/11 16:38 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/09/11 16:38 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 16:38 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 16:38 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 16:38 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 16:38 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/09/11 16:38 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/09/11 16:38 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-220514/7**
**Matrix: Water**
**Analysis Batch: 220514**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 103 | | 70 - 130 | | 11/09/11 16:38 | 1 |
| Toluene-d8 (Surr) | 101 | | 70 - 130 | | 11/09/11 16:38 | 1 |
| Dibromofluoromethane | 109 | | 70 - 130 | | 11/09/11 16:38 | 1 |

**Lab Sample ID: LCS 680-220514/4**
**Matrix: Water**
**Analysis Batch: 220514**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acetone | 100 | 117 | | ug/L | | 117 | 26 - 180 |
| Benzene | 50.0 | 48.2 | | ug/L | | 96 | 70 - 130 |
| Bromodichloromethane | 50.0 | 46.9 | | ug/L | | 94 | 70 - 130 |
| Bromoform | 50.0 | 48.2 | | ug/L | | 96 | 70 - 130 |
| Bromomethane | 50.0 | 28.0 | | ug/L | | 56 | 23 - 165 |
| 2-Butanone | 100 | 108 | | ug/L | | 108 | 49 - 172 |
| Carbon disulfide | 50.0 | 56.1 | | ug/L | | 112 | 54 - 132 |
| Carbon tetrachloride | 50.0 | 39.9 | | ug/L | | 80 | 70 - 130 |
| Chlorobenzene | 50.0 | 52.3 | | ug/L | | 105 | 70 - 130 |
| Chloroethane | 50.0 | 39.0 | | ug/L | | 78 | 56 - 152 |
| Chloroform | 50.0 | 52.4 | | ug/L | | 105 | 70 - 130 |
| Chloromethane | 50.0 | 38.7 | | ug/L | | 77 | 70 - 130 |
| Cyclohexane | 50.0 | 40.9 | | ug/L | | 82 | 70 - 132 |
| Dibromochloromethane | 50.0 | 43.9 | | ug/L | | 88 | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 44.8 | | ug/L | | 90 | 70 - 130 |
| 1,2-Dibromoethane | 50.0 | 48.4 | | ug/L | | 97 | 70 - 130 |
| 1,2-Dichlorobenzene | 50.0 | 42.4 | | ug/L | | 85 | 70 - 130 |
| 1,3-Dichlorobenzene | 50.0 | 37.6 | | ug/L | | 75 | 70 - 130 |
| 1,4-Dichlorobenzene | 50.0 | 42.5 | | ug/L | | 85 | 70 - 130 |
| Dichlorodifluoromethane | 50.0 | 67.1 | | ug/L | | 134 | 44 - 146 |
| 1,1-Dichloroethane | 50.0 | 54.0 | | ug/L | | 108 | 70 - 130 |
| 1,2-Dichloroethane | 50.0 | 45.1 | | ug/L | | 90 | 70 - 130 |
| 1,1-Dichloroethene | 50.0 | 56.8 | | ug/L | | 114 | 66 - 131 |
| cis-1,2-Dichloroethene | 50.0 | 55.9 | | ug/L | | 112 | 70 - 130 |
| trans-1,2-Dichloroethene | 50.0 | 57.1 | | ug/L | | 114 | 70 - 130 |
| 1,2-Dichloropropane | 50.0 | 46.2 | | ug/L | | 92 | 70 - 130 |
| cis-1,3-Dichloropropene | 50.0 | 48.3 | | ug/L | | 97 | 70 - 130 |
| trans-1,3-Dichloropropene | 50.0 | 46.9 | | ug/L | | 94 | 70 - 130 |
| Ethylbenzene | 50.0 | 51.1 | | ug/L | | 102 | 70 - 130 |
| 2-Hexanone | 100 | 103 | | ug/L | | 103 | 42 - 185 |
| Isopropylbenzene | 50.0 | 43.2 | | ug/L | | 86 | 70 - 130 |
| Methyl acetate | 50.0 | 53.6 | | ug/L | | 107 | 70 - 130 |
| Methylcyclohexane | 50.0 | 42.2 | | ug/L | | 84 | 70 - 134 |
| Methylene Chloride | 50.0 | 52.0 | | ug/L | | 104 | 67 - 130 |
| 4-Methyl-2-pentanone | 100 | 89.0 | | ug/L | | 89 | 70 - 130 |
| Methyl tert-butyl ether | 100 | 103 | | ug/L | | 103 | 64 - 131 |
| Styrene | 50.0 | 42.2 | | ug/L | | 84 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 50.9 | | ug/L | | 102 | 70 - 130 |
| Tetrachloroethene | 50.0 | 54.9 | | ug/L | | 110 | 70 - 130 |
| Toluene | 50.0 | 47.7 | | ug/L | | 95 | 70 - 130 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-220514/4**
**Matrix: Water**
**Analysis Batch: 220514**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 50.0 | 55.3 | | ug/L | | 111 | 65 - 130 |
| 1,1,1-Trichloroethane | 50.0 | 37.2 | | ug/L | | 74 | 70 - 130 |
| 1,1,2-Trichloroethane | 50.0 | 47.1 | | ug/L | | 94 | 70 - 130 |
| Trichloroethene | 50.0 | 51.1 | | ug/L | | 102 | 70 - 130 |
| Trichlorofluoromethane | 50.0 | 55.3 | | ug/L | | 111 | 55 - 156 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 61.2 | | ug/L | | 122 | 60 - 135 |
| Vinyl chloride | 50.0 | 46.4 | | ug/L | | 93 | 67 - 134 |
| Xylenes, Total | 150 | 123 | | ug/L | | 82 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *103* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *95* | | *70 - 130* |
| *Dibromofluoromethane* | *109* | | *70 - 130* |

**Lab Sample ID: LCSD 680-220514/5**
**Matrix: Water**
**Analysis Batch: 220514**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 100 | 118 | | ug/L | | 118 | 26 - 180 | 0 | 50 |
| Benzene | 50.0 | 50.6 | | ug/L | | 101 | 70 - 130 | 5 | 30 |
| Bromodichloromethane | 50.0 | 49.3 | | ug/L | | 99 | 70 - 130 | 5 | 30 |
| Bromoform | 50.0 | 50.1 | | ug/L | | 100 | 70 - 130 | 4 | 30 |
| Bromomethane | 50.0 | 23.1 | | ug/L | | 46 | 23 - 165 | 19 | 50 |
| 2-Butanone | 100 | 109 | | ug/L | | 109 | 49 - 172 | 2 | 30 |
| Carbon disulfide | 50.0 | 57.3 | | ug/L | | 115 | 54 - 132 | 2 | 30 |
| Carbon tetrachloride | 50.0 | 41.9 | | ug/L | | 84 | 70 - 130 | 5 | 30 |
| Chlorobenzene | 50.0 | 53.6 | | ug/L | | 107 | 70 - 130 | 2 | 30 |
| Chloroethane | 50.0 | 39.2 | | ug/L | | 78 | 56 - 152 | 0 | 40 |
| Chloroform | 50.0 | 53.1 | | ug/L | | 106 | 70 - 130 | 1 | 30 |
| Chloromethane | 50.0 | 39.8 | | ug/L | | 80 | 70 - 130 | 3 | 30 |
| Cyclohexane | 50.0 | 43.0 | | ug/L | | 86 | 70 - 132 | 5 | 30 |
| Dibromochloromethane | 50.0 | 45.0 | | ug/L | | 90 | 70 - 130 | 2 | 50 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 47.2 | | ug/L | | 94 | 70 - 130 | 5 | 50 |
| 1,2-Dibromoethane | 50.0 | 51.0 | | ug/L | | 102 | 70 - 130 | 5 | 30 |
| 1,2-Dichlorobenzene | 50.0 | 44.0 | | ug/L | | 88 | 70 - 130 | 4 | 30 |
| 1,3-Dichlorobenzene | 50.0 | 39.6 | | ug/L | | 79 | 70 - 130 | 5 | 30 |
| 1,4-Dichlorobenzene | 50.0 | 43.4 | | ug/L | | 87 | 70 - 130 | 2 | 30 |
| Dichlorodifluoromethane | 50.0 | 68.9 | | ug/L | | 138 | 44 - 146 | 3 | 50 |
| 1,1-Dichloroethane | 50.0 | 54.8 | | ug/L | | 110 | 70 - 130 | 1 | 30 |
| 1,2-Dichloroethane | 50.0 | 46.9 | | ug/L | | 94 | 70 - 130 | 4 | 30 |
| 1,1-Dichloroethene | 50.0 | 57.9 | | ug/L | | 116 | 66 - 131 | 2 | 30 |
| cis-1,2-Dichloroethene | 50.0 | 57.3 | | ug/L | | 115 | 70 - 130 | 2 | 30 |
| trans-1,2-Dichloroethene | 50.0 | 57.5 | | ug/L | | 115 | 70 - 130 | 1 | 30 |
| 1,2-Dichloropropane | 50.0 | 48.5 | | ug/L | | 97 | 70 - 130 | 5 | 30 |
| cis-1,3-Dichloropropene | 50.0 | 49.9 | | ug/L | | 100 | 70 - 130 | 3 | 30 |
| trans-1,3-Dichloropropene | 50.0 | 48.9 | | ug/L | | 98 | 70 - 130 | 4 | 50 |
| Ethylbenzene | 50.0 | 52.5 | | ug/L | | 105 | 70 - 130 | 3 | 30 |
| 2-Hexanone | 100 | 106 | | ug/L | | 106 | 42 - 185 | 3 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-220514/5**
**Matrix: Water**
**Analysis Batch: 220514**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Isopropylbenzene | | | 50.0 | 44.4 | | ug/L | | 89 | 70 - 130 | 3 | 30 |
| Methyl acetate | | | 50.0 | 54.7 | | ug/L | | 109 | 70 - 130 | 2 | 30 |
| Methylcyclohexane | | | 50.0 | 43.7 | | ug/L | | 87 | 70 - 134 | 3 | 30 |
| Methylene Chloride | | | 50.0 | 53.3 | | ug/L | | 107 | 67 - 130 | 2 | 30 |
| 4-Methyl-2-pentanone | | | 100 | 93.7 | | ug/L | | 94 | 70 - 130 | 5 | 30 |
| Methyl tert-butyl ether | | | 100 | 106 | | ug/L | | 106 | 64 - 131 | 2 | 30 |
| Styrene | | | 50.0 | 43.8 | | ug/L | | 88 | 70 - 130 | 4 | 30 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 52.0 | | ug/L | | 104 | 70 - 130 | 2 | 30 |
| Tetrachloroethene | | | 50.0 | 56.0 | | ug/L | | 112 | 70 - 130 | 2 | 30 |
| Toluene | | | 50.0 | 50.0 | | ug/L | | 100 | 70 - 130 | 5 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 57.3 | | ug/L | | 115 | 65 - 130 | 4 | 30 |
| 1,1,1-Trichloroethane | | | 50.0 | 39.3 | | ug/L | | 79 | 70 - 130 | 5 | 30 |
| 1,1,2-Trichloroethane | | | 50.0 | 49.4 | | ug/L | | 99 | 70 - 130 | 5 | 30 |
| Trichloroethene | | | 50.0 | 53.5 | | ug/L | | 107 | 70 - 130 | 5 | 30 |
| Trichlorofluoromethane | | | 50.0 | 54.7 | | ug/L | | 109 | 55 - 156 | 1 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 62.4 | | ug/L | | 125 | 60 - 135 | 2 | 30 |
| Vinyl chloride | | | 50.0 | 46.7 | | ug/L | | 93 | 67 - 134 | 1 | 30 |
| Xylenes, Total | | | 150 | 127 | | ug/L | | 85 | 70 - 130 | 3 | 30 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *107* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* |
| *Dibromofluoromethane* | *109* | | *70 - 130* |

## GC/MS VOA

### Analysis Batch: 220123

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-73799-12 | MW-32 | Total/NA | Water | 8260B | |
| 680-73799-13 | MW-33 | Total/NA | Water | 8260B | |
| 680-73799-14 | MW-34 | Total/NA | Water | 8260B | |
| 680-73799-15 | Trip Blank | Total/NA | Water | 8260B | |
| LCS 680-220123/5 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-220123/6 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-220123/8 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 220129

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-73799-1 | LAW-PZ-8 | Total/NA | Water | 8260B | |
| 680-73799-3 | PAN-MW-10 | Total/NA | Water | 8260B | |
| 680-73799-4 | MW-15 | Total/NA | Water | 8260B | |
| 680-73799-5 | MW-16 | Total/NA | Water | 8260B | |
| LCS 680-220129/24 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-220129/28 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-220129/27 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 220251

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-73799-7 | MW-18R | Total/NA | Water | 8260B | |
| 680-73799-8 | MW-24 | Total/NA | Water | 8260B | |
| 680-73799-11 | MW-30 | Total/NA | Water | 8260B | |
| LCS 680-220251/21 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-220251/22 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-220251/24 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 220477

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-73799-1 - DL | LAW-PZ-8 | Total/NA | Water | 8260B | |
| 680-73799-4 - DL | MW-15 | Total/NA | Water | 8260B | |
| LCS 680-220477/7 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-220477/8 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-220477/10 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 220479

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-73799-6 | MW-17R | Total/NA | Water | 8260B | |
| 680-73799-9 | MW-26R | Total/NA | Water | 8260B | |
| 680-73799-10 | MW-29 | Total/NA | Water | 8260B | |
| LCS 680-220479/7 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-220479/8 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-220479/10 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 220514

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-73799-2 | PAN-MW-9 | Total/NA | Water | 8260B | |
| LCS 680-220514/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-220514/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-220514/7 | Method Blank | Total/NA | Water | 8260B | |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

## Client Sample ID: LAW-PZ-8

**Lab Sample ID: 680-73799-1**

**Date Collected: 10/26/11 19:35**

**Matrix: Water**

**Date Received: 10/27/11 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 100 | 220129 | 11/05/11 21:02 | JG | TAL SAV |
| Total/NA | Analysis | 8260B | DL | 200 | 220477 | 11/06/11 22:17 | RB | TAL SAV |

## Client Sample ID: PAN-MW-9

**Lab Sample ID: 680-73799-2**

**Date Collected: 10/26/11 18:11**

**Matrix: Water**

**Date Received: 10/27/11 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 50 | 220514 | 11/09/11 19:27 | RB | TAL SAV |

## Client Sample ID: PAN-MW-10

**Lab Sample ID: 680-73799-3**

**Date Collected: 10/26/11 18:59**

**Matrix: Water**

**Date Received: 10/27/11 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220129 | 11/05/11 20:16 | JG | TAL SAV |

## Client Sample ID: MW-15

**Lab Sample ID: 680-73799-4**

**Date Collected: 10/26/11 13:38**

**Matrix: Water**

**Date Received: 10/27/11 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 20 | 220129 | 11/05/11 21:48 | JG | TAL SAV |
| Total/NA | Analysis | 8260B | DL | 50 | 220477 | 11/06/11 21:48 | RB | TAL SAV |

## Client Sample ID: MW-16

**Lab Sample ID: 680-73799-5**

**Date Collected: 10/26/11 09:51**

**Matrix: Water**

**Date Received: 10/27/11 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220129 | 11/05/11 20:39 | JG | TAL SAV |

## Client Sample ID: MW-17R

**Lab Sample ID: 680-73799-6**

**Date Collected: 10/26/11 17:55**

**Matrix: Water**

**Date Received: 10/27/11 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220479 | 11/09/11 17:52 | AJMC | TAL SAV |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

## Client Sample ID: MW-18R — Lab Sample ID: 680-73799-7

**Date Collected: 10/26/11 14:47**
**Date Received: 10/27/11 10:00**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220251 | 11/07/11 06:27 | WJC | TAL SAV |

## Client Sample ID: MW-24 — Lab Sample ID: 680-73799-8

**Date Collected: 10/26/11 15:34**
**Date Received: 10/27/11 10:00**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 5 | 220251 | 11/07/11 06:54 | WJC | TAL SAV |

## Client Sample ID: MW-26R — Lab Sample ID: 680-73799-9

**Date Collected: 10/26/11 11:45**
**Date Received: 10/27/11 10:00**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220479 | 11/09/11 16:43 | AJMC | TAL SAV |

## Client Sample ID: MW-29 — Lab Sample ID: 680-73799-10

**Date Collected: 10/26/11 16:13**
**Date Received: 10/27/11 10:00**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 20 | 220479 | 11/09/11 17:06 | AJMC | TAL SAV |

## Client Sample ID: MW-30 — Lab Sample ID: 680-73799-11

**Date Collected: 10/26/11 10:48**
**Date Received: 10/27/11 10:00**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220251 | 11/07/11 08:42 | WJC | TAL SAV |

## Client Sample ID: MW-32 — Lab Sample ID: 680-73799-12

**Date Collected: 10/25/11 17:04**
**Date Received: 10/27/11 10:00**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 10 | 220123 | 11/06/11 02:03 | ES | TAL SAV |

## Client Sample ID: MW-33 — Lab Sample ID: 680-73799-13

**Date Collected: 10/25/11 17:10**
**Date Received: 10/27/11 10:00**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 200 | 220123 | 11/06/11 02:30 | ES | TAL SAV |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

## Client Sample ID: MW-34

**Lab Sample ID: 680-73799-14**

**Date Collected: 10/25/11 15:06**

**Matrix: Water**

**Date Received: 10/27/11 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220123 | 11/06/11 01:12 | ES | TAL SAV |

## Client Sample ID: Trip Blank

**Lab Sample ID: 680-73799-15**

**Date Collected: 10/25/11 00:00**

**Matrix: Water**

**Date Received: 10/27/11 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220123 | 11/05/11 20:13 | ES | TAL SAV |

**Laboratory References:**

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Serial Number 04[illegible]12

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:


| | | | |
|---|---|---|---|
| PROJECT REFERENCE: VAPAR Savannah | PROJECT NO.: 390020 | PROJECT LOCATION (STATE): GA | |
| TAL (LAB) PROJECT MANAGER | P.O. NUMBER | CONTRACT NO. | |
| CLIENT (SITE) PM: Alan Sanders | CLIENT PHONE: 770-772-7100 | CLIENT FAX: -0555 | |
| CLIENT NAME: Alan Sanders | CLIENT E-MAIL: asanders@eticusa.com | | |
| CLIENT ADDRESS: 161 Kimball Bridge Rd, Alpharetta | | | |
| COMPANY CONTRACTING THIS WORK (if applicable): GA 30009 | | | |

MATRIX TYPE (COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...))

REQUIRED ANALYSIS: 8260B; HCl PRESERVATIVE

PAGE 1 OF 2

STANDARD REPORT DELIVERY ✓

DATE DUE

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | COMPOSITE (C) OR GRAB (G) | AQUEOUS (WATER) | SOLID OR SEMISOLID | AIR | NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | NUMBER OF CONTAINERS SUBMITTED | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 10/26/11 | 19:35 | LAW-PZ-8 | G | X | | | | 3 | |
| 10/26/11 | 18:11 | PAN-MW-9 | G | X | | | | 3 | |
| 10/26/11 | 18:59 | PAN-MW-10 | G | X | | | | 3 | |
| 10/26/11 | 13:38 | MW-15 | G | X | | | | 3 | |
| 10/26/11 | 9:51 | MW-16 | G | X | | | | 3 | |
| 10/25/11 | 17:55 | MW-17R | G | X | | | | 3 | |
| 10/26/11 | 14:47 | MW-18R | G | X | | | | 3 | |
| 10/26/11 | 15:34 | MW-24 | G | X | | | | 3 | |
| 10/26/11 | 11:45 | MW-26R | G | X | | | | 3 | |
| 10/26/11 | 16:13 | MW-29 | G | X | | | | 3 | |
| 10/26/11 | 10:48 | MW-30 | G | X | | | | 3 | |
| 10/25/11 | 17:04 | MW-32 | G | X | | | | 3 | |

| | DATE | TIME | | DATE | TIME | | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| RELINQUISHED BY: (SIGNATURE) | 10/27/11 | 8:55 | RELINQUISHED BY: (SIGNATURE) | | | RELINQUISHED BY: (SIGNATURE) | | |
| RECEIVED BY: (SIGNATURE) | 10/27/11 | 8:56 | RECEIVED BY: (SIGNATURE) | | | RECEIVED BY: (SIGNATURE) | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| | 10/27/11 | 1000 | YES ○ NO ○ | | 73799 680-73798 | 4.2°C |

Page 71 of 74

Serial Number

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


✓ TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

○ Alternate Laboratory Name/Location

Phone:
Fax:


| PROJECT REFERENCE | PROJECT NO. | PROJECT LOCATION (STATE) |
|---|---|---|
| VOPAK Savannah | 310020 | FA |
| TAL (LAB) PROJECT MANAGER | P.O. NUMBER | CONTRACT NO. |
| CLIENT (SITE) PM: Alan Sanders | CLIENT PHONE: 770-772-7100 | CLIENT FAX: 9555 |
| CLIENT NAME: Alan Sanders | CLIENT E-MAIL: asanders@eicusa.com | |
| CLIENT ADDRESS: 161 Kimball Bridge Road, Alpharetta, | | |
| COMPANY CONTRACTING THIS WORK (if applicable): GA 30009 | | |

MATRIX TYPE (COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...))

REQUIRED ANALYSIS: 8260B; To be determined

PAGE 2 OF 2

STANDARD REPORT DELIVERY ✓

DATE DUE

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | COMPOSITE (C) OR GRAB (G) | AQUEOUS (WATER) | SOLID OR SEMISOLID | AIR | NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | NUMBER OF CONTAINERS SUBMITTED: 8260B | HCl PRESERVATIVE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/26/11 | 17:10 | MW-33 | G | X | | | | 3 | | |
| 10/25/11 | 15:06 | MW-34 | G | X | | | | 3 | | |
| | | Trip Blank | | | | | | | 2 | will notify if analysis required |

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| [signature] | 10/27/11 | 8:55 | | | | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| [signature] | 10/27/11 | 8:55 | | | | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| [signature] | 10/27/11 | 1500 | YES ○ NO ○ | | 680-73799 ~~73748~~ | 4.2°C |

Page 72 of 74

# Login Sample Receipt Checklist

Client: Environmental International Corporation

Job Number: 680-73799-1

**Login Number: 73799**

**List Source: TestAmerica Savannah**

**List Number: 1**

**Creator: Conner, Keaton**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | False | -9 vials say MW-26 coc has MW-26R |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

# Certification Summary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73799-1

| Laboratory | Authority | Program | EPA Region | Certification ID |
|---|---|---|---|---|
| TestAmerica Savannah | A2LA | DoD ELAP | | 0399-01 |
| TestAmerica Savannah | A2LA | ISO/IEC 17025 | | 399.01 |
| TestAmerica Savannah | Alabama | State Program | 4 | 41450 |
| TestAmerica Savannah | Arkansas | Arkansas DOH | 6 | N/A |
| TestAmerica Savannah | Arkansas | State Program | 6 | 88-0692 |
| TestAmerica Savannah | California | NELAC | 9 | 3217CA |
| TestAmerica Savannah | Colorado | State Program | 8 | N/A |
| TestAmerica Savannah | Connecticut | State Program | 1 | PH-0161 |
| TestAmerica Savannah | Delaware | State Program | 3 | N/A |
| TestAmerica Savannah | Florida | NELAC | 4 | E87052 |
| TestAmerica Savannah | Georgia | Georgia EPD | 4 | N/A |
| TestAmerica Savannah | Georgia | State Program | 4 | 803 |
| TestAmerica Savannah | Guam | State Program | 9 | 09-005r |
| TestAmerica Savannah | Hawaii | State Program | 9 | N/A |
| TestAmerica Savannah | Illinois | NELAC | 5 | 200022 |
| TestAmerica Savannah | Indiana | State Program | 5 | N/A |
| TestAmerica Savannah | Iowa | State Program | 7 | 353 |
| TestAmerica Savannah | Kentucky | Kentucky UST | 4 | 18 |
| TestAmerica Savannah | Kentucky | State Program | 4 | 90084 |
| TestAmerica Savannah | Louisiana | NELAC | 6 | 30690 |
| TestAmerica Savannah | Louisiana | NELAC | 6 | LA100015 |
| TestAmerica Savannah | Maine | State Program | 1 | GA00006 |
| TestAmerica Savannah | Maryland | State Program | 3 | 250 |
| TestAmerica Savannah | Massachusetts | State Program | 1 | M-GA006 |
| TestAmerica Savannah | Michigan | State Program | 5 | 9925 |
| TestAmerica Savannah | Mississippi | State Program | 4 | N/A |
| TestAmerica Savannah | Montana | State Program | 8 | CERT0081 |
| TestAmerica Savannah | Nebraska | State Program | 7 | TestAmerica-Savannah |
| TestAmerica Savannah | New Jersey | NELAC | 2 | GA769 |
| TestAmerica Savannah | New Mexico | State Program | 6 | N/A |
| TestAmerica Savannah | New York | NELAC | 2 | 10842 |
| TestAmerica Savannah | North Carolina | North Carolina DENR | 4 | 269 |
| TestAmerica Savannah | North Carolina | North Carolina PHL | 4 | 13701 |
| TestAmerica Savannah | Oklahoma | State Program | 6 | 9984 |
| TestAmerica Savannah | Pennsylvania | NELAC | 3 | 68-00474 |
| TestAmerica Savannah | Puerto Rico | State Program | 2 | GA00006 |
| TestAmerica Savannah | Rhode Island | State Program | 1 | LAO00244 |
| TestAmerica Savannah | South Carolina | State Program | 4 | 98001 |
| TestAmerica Savannah | Tennessee | State Program | 4 | TN02961 |
| TestAmerica Savannah | Texas | NELAC | 6 | T104704185-08-TX |
| TestAmerica Savannah | USDA | USDA | | SAV 3-04 |
| TestAmerica Savannah | Vermont | State Program | 1 | 87052 |
| TestAmerica Savannah | Virginia | NELAC Secondary AB | 3 | 460161 |
| TestAmerica Savannah | Virginia | State Program | 3 | 302 |
| TestAmerica Savannah | Washington | State Program | 10 | C1794 |
| TestAmerica Savannah | West Virginia | West Virginia DEP | 3 | 94 |
| TestAmerica Savannah | West Virginia | West Virginia DHHR (DW) | 3 | 9950C |
| TestAmerica Savannah | Wisconsin | State Program | 5 | 999819810 |
| TestAmerica Savannah | Wyoming | State Program | 8 | 8TMS-Q |

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-73812-1
Client Project/Site: GW Sampling PN #390010 / Savannah GA

For:
Environmental International Corporation
161 Kimball Bridge Rd.
Suite 100
Alpharetta, Georgia 30009

Attn: Mr. Alan Sanders

*Authorized for release by:*
*11/10/2011 3:57:58 PM*

Lidya Gulizia
Project Manager II
lidya.gulizia@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Job ID: 680-73812-1

**Laboratory: TestAmerica Savannah**

**Narrative**

**Job Narrative**
**680-73812-1**

**Receipt**
All samples were received in good condition within temperature requirements.

**GC/MS VOA**
Method(s) 8260B: The method blank for batch 220351 contained 1,2,4-trichlorobenzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8260B: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 4 analytes to recover outside criteria for this method when a full list spike is utilized. The LCS/LCSD associated with batch 220479 each had 1 analyte outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8260B: The method blank for batch 220479 contained 1,2,4-trichlorobenzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

**Comments**
No additional comments.

# Sample Summary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 680-73812-1 | MW-19 | Water | 10/27/11 09:42 | 10/27/11 13:03 |
| 680-73812-2 | MW-23 | Water | 10/27/11 10:23 | 10/27/11 13:03 |
| 680-73812-3 | MW-25 | Water | 10/27/11 08:51 | 10/27/11 13:03 |
| 680-73812-4 | MW-27 | Water | 10/27/11 11:53 | 10/27/11 13:03 |
| 680-73812-5 | MW-31 | Water | 10/27/11 11:03 | 10/27/11 13:03 |
| 680-73812-6 | Trip Blank | Water | 10/27/11 00:00 | 10/27/11 13:03 |

# Method Summary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL SAV |

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

# Definitions/Glossary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| B | Compound was found in the blank and sample. |
| * | LCS or LCSD exceeds the control limits |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ☼ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CNF | Contains no Free Liquid |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| EDL | Estimated Detection Limit |
| EPA | United States Environmental Protection Agency |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| RL | Reporting Limit |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

# Detection Summary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

## Client Sample ID: MW-19 — Lab Sample ID: 680-73812-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 0.49 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-23 — Lab Sample ID: 680-73812-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 0.37 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-25 — Lab Sample ID: 680-73812-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | 0.37 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 0.72 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 0.48 | J | 1.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| Methylcyclohexane | 0.83 | J | 1.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 8.7 | | 2.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-27 — Lab Sample ID: 680-73812-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.63 | J | 2.0 | 0.50 | ug/L | 2 | | 8260B | Total/NA |
| Chlorobenzene | 59 | | 2.0 | 0.50 | ug/L | 2 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 3.4 | | 2.0 | 0.42 | ug/L | 2 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 25 | | 2.0 | 0.56 | ug/L | 2 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 0.53 | J | 2.0 | 0.50 | ug/L | 2 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 8.3 | | 2.0 | 0.30 | ug/L | 2 | | 8260B | Total/NA |
| Ethylbenzene | 0.29 | J | 2.0 | 0.22 | ug/L | 2 | | 8260B | Total/NA |
| Methyl tert-butyl ether | 4.5 | J | 20 | 0.40 | ug/L | 2 | | 8260B | Total/NA |
| Tetrachloroethene | 0.86 | J | 2.0 | 0.30 | ug/L | 2 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 0.68 | J B * | 2.0 | 0.50 | ug/L | 2 | | 8260B | Total/NA |
| Trichloroethene | 1.6 | J | 2.0 | 0.26 | ug/L | 2 | | 8260B | Total/NA |
| Vinyl chloride | 200 | | 2.0 | 0.36 | ug/L | 2 | | 8260B | Total/NA |
| Xylenes, Total | 3.4 | J | 4.0 | 0.40 | ug/L | 2 | | 8260B | Total/NA |

## Client Sample ID: MW-31 — Lab Sample ID: 680-73812-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 0.65 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 0.24 | J | 2.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: Trip Blank — Lab Sample ID: 680-73812-6

No Detections

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: MW-19**
**Date Collected: 10/27/11 09:42**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-1**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/08/11 16:49 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 16:49 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 16:49 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 16:49 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/08/11 16:49 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 16:49 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/08/11 16:49 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 16:49 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 16:49 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/08/11 16:49 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/08/11 16:49 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/08/11 16:49 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 16:49 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/08/11 16:49 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 16:49 | 1 |
| **1,1-Dichloroethane** | **0.49** | **J** | 1.0 | 0.25 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 16:49 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/08/11 16:49 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 16:49 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 16:49 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/08/11 16:49 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 16:49 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 16:49 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 16:49 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/08/11 16:49 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 16:49 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/08/11 16:49 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 16:49 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/08/11 16:49 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/08/11 16:49 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/08/11 16:49 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 16:49 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 16:49 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 16:49 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 16:49 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/08/11 16:49 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/08/11 16:49 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: MW-19**
**Date Collected: 10/27/11 09:42**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-1**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 104 | | 70 - 130 | | 11/08/11 16:49 | 1 |
| Toluene-d8 (Surr) | 108 | | 70 - 130 | | 11/08/11 16:49 | 1 |
| Dibromofluoromethane | 112 | | 70 - 130 | | 11/08/11 16:49 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: MW-23**
**Date Collected: 10/27/11 10:23**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-2**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/08/11 17:12 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:12 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:12 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 17:12 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/08/11 17:12 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 17:12 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/08/11 17:12 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 17:12 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:12 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/08/11 17:12 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/08/11 17:12 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/08/11 17:12 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:12 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/08/11 17:12 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:12 | 1 |
| **1,1-Dichloroethane** | **0.37** | **J** | 1.0 | 0.25 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 17:12 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/08/11 17:12 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 17:12 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 17:12 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/08/11 17:12 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 17:12 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 17:12 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 17:12 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/08/11 17:12 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 17:12 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/08/11 17:12 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 17:12 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/08/11 17:12 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/08/11 17:12 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/08/11 17:12 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 17:12 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 17:12 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:12 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 17:12 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/08/11 17:12 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/08/11 17:12 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: MW-23**
**Date Collected: 10/27/11 10:23**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-2**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 106 | | 70 - 130 | | 11/08/11 17:12 | 1 |
| Toluene-d8 (Surr) | 108 | | 70 - 130 | | 11/08/11 17:12 | 1 |
| Dibromofluoromethane | 115 | | 70 - 130 | | 11/08/11 17:12 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: MW-25**
**Date Collected: 10/27/11 08:51**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-3**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/09/11 20:13 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 20:13 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 20:13 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 20:13 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/09/11 20:13 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 20:13 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/09/11 20:13 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 20:13 | 1 |
| **Chlorobenzene** | **0.37** | **J** | 1.0 | 0.25 | ug/L | | | 11/09/11 20:13 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/09/11 20:13 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/09/11 20:13 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/09/11 20:13 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 20:13 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/09/11 20:13 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 20:13 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/09/11 20:13 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 20:13 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 20:13 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/09/11 20:13 | 1 |
| **Ethylbenzene** | **0.72** | **J** | 1.0 | 0.11 | ug/L | | | 11/09/11 20:13 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 20:13 | 1 |
| **Isopropylbenzene** | **0.48** | **J** | 1.0 | 0.10 | ug/L | | | 11/09/11 20:13 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/09/11 20:13 | 1 |
| **Methylcyclohexane** | **0.83** | **J** | 1.0 | 0.10 | ug/L | | | 11/09/11 20:13 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/09/11 20:13 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 20:13 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/09/11 20:13 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/09/11 20:13 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/09/11 20:13 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | * | 1.0 | 0.25 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 20:13 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 20:13 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 20:13 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 20:13 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/09/11 20:13 | 1 |
| **Xylenes, Total** | **8.7** | | 2.0 | 0.20 | ug/L | | | 11/09/11 20:13 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: MW-25**
**Date Collected: 10/27/11 08:51**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-3**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 101 | | 70 - 130 | | 11/09/11 20:13 | 1 |
| Toluene-d8 (Surr) | 101 | | 70 - 130 | | 11/09/11 20:13 | 1 |
| Dibromofluoromethane | 100 | | 70 - 130 | | 11/09/11 20:13 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: MW-27**
**Date Collected: 10/27/11 11:53**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-4**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <50 | | 50 | 10 | ug/L | | | 11/09/11 20:36 | 2 |
| **Benzene** | **0.63** | **J** | 2.0 | 0.50 | ug/L | | | 11/09/11 20:36 | 2 |
| Bromodichloromethane | <2.0 | | 2.0 | 0.50 | ug/L | | | 11/09/11 20:36 | 2 |
| Bromoform | <2.0 | | 2.0 | 1.0 | ug/L | | | 11/09/11 20:36 | 2 |
| Bromomethane | <2.0 | | 2.0 | 1.6 | ug/L | | | 11/09/11 20:36 | 2 |
| 2-Butanone | <20 | | 20 | 2.0 | ug/L | | | 11/09/11 20:36 | 2 |
| Carbon disulfide | <4.0 | | 4.0 | 1.2 | ug/L | | | 11/09/11 20:36 | 2 |
| Carbon tetrachloride | <2.0 | | 2.0 | 1.0 | ug/L | | | 11/09/11 20:36 | 2 |
| **Chlorobenzene** | **59** | | 2.0 | 0.50 | ug/L | | | 11/09/11 20:36 | 2 |
| Chloroethane | <2.0 | | 2.0 | 2.0 | ug/L | | | 11/09/11 20:36 | 2 |
| Chloroform | <2.0 | | 2.0 | 0.28 | ug/L | | | 11/09/11 20:36 | 2 |
| Chloromethane | <2.0 | | 2.0 | 0.66 | ug/L | | | 11/09/11 20:36 | 2 |
| Cyclohexane | <2.0 | | 2.0 | 0.50 | ug/L | | | 11/09/11 20:36 | 2 |
| Dibromochloromethane | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/09/11 20:36 | 2 |
| 1,2-Dibromo-3-Chloropropane | <2.0 | | 2.0 | 0.88 | ug/L | | | 11/09/11 20:36 | 2 |
| 1,2-Dibromoethane | <2.0 | | 2.0 | 0.50 | ug/L | | | 11/09/11 20:36 | 2 |
| **1,2-Dichlorobenzene** | **3.4** | | 2.0 | 0.42 | ug/L | | | 11/09/11 20:36 | 2 |
| 1,3-Dichlorobenzene | <2.0 | | 2.0 | 0.50 | ug/L | | | 11/09/11 20:36 | 2 |
| **1,4-Dichlorobenzene** | **25** | | 2.0 | 0.56 | ug/L | | | 11/09/11 20:36 | 2 |
| Dichlorodifluoromethane | <2.0 | | 2.0 | 0.50 | ug/L | | | 11/09/11 20:36 | 2 |
| **1,1-Dichloroethane** | **0.53** | **J** | 2.0 | 0.50 | ug/L | | | 11/09/11 20:36 | 2 |
| 1,2-Dichloroethane | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/09/11 20:36 | 2 |
| 1,1-Dichloroethene | <2.0 | | 2.0 | 0.22 | ug/L | | | 11/09/11 20:36 | 2 |
| **cis-1,2-Dichloroethene** | **8.3** | | 2.0 | 0.30 | ug/L | | | 11/09/11 20:36 | 2 |
| trans-1,2-Dichloroethene | <2.0 | | 2.0 | 0.40 | ug/L | | | 11/09/11 20:36 | 2 |
| 1,2-Dichloropropane | <2.0 | | 2.0 | 0.26 | ug/L | | | 11/09/11 20:36 | 2 |
| cis-1,3-Dichloropropene | <2.0 | | 2.0 | 0.22 | ug/L | | | 11/09/11 20:36 | 2 |
| trans-1,3-Dichloropropene | <2.0 | | 2.0 | 0.42 | ug/L | | | 11/09/11 20:36 | 2 |
| **Ethylbenzene** | **0.29** | **J** | 2.0 | 0.22 | ug/L | | | 11/09/11 20:36 | 2 |
| 2-Hexanone | <20 | | 20 | 2.0 | ug/L | | | 11/09/11 20:36 | 2 |
| Isopropylbenzene | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/09/11 20:36 | 2 |
| Methyl acetate | <2.0 | | 2.0 | 0.38 | ug/L | | | 11/09/11 20:36 | 2 |
| Methylcyclohexane | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/09/11 20:36 | 2 |
| Methylene Chloride | <10 | | 10 | 2.0 | ug/L | | | 11/09/11 20:36 | 2 |
| 4-Methyl-2-pentanone | <20 | | 20 | 2.0 | ug/L | | | 11/09/11 20:36 | 2 |
| **Methyl tert-butyl ether** | **4.5** | **J** | 20 | 0.40 | ug/L | | | 11/09/11 20:36 | 2 |
| Styrene | <2.0 | | 2.0 | 0.22 | ug/L | | | 11/09/11 20:36 | 2 |
| 1,1,2,2-Tetrachloroethane | <2.0 | | 2.0 | 0.36 | ug/L | | | 11/09/11 20:36 | 2 |
| **Tetrachloroethene** | **0.86** | **J** | 2.0 | 0.30 | ug/L | | | 11/09/11 20:36 | 2 |
| Toluene | <2.0 | | 2.0 | 0.66 | ug/L | | | 11/09/11 20:36 | 2 |
| **1,2,4-Trichlorobenzene** | **0.68** | **J B *** | 2.0 | 0.50 | ug/L | | | 11/09/11 20:36 | 2 |
| 1,1,1-Trichloroethane | <2.0 | | 2.0 | 1.0 | ug/L | | | 11/09/11 20:36 | 2 |
| 1,1,2-Trichloroethane | <2.0 | | 2.0 | 0.26 | ug/L | | | 11/09/11 20:36 | 2 |
| **Trichloroethene** | **1.6** | **J** | 2.0 | 0.26 | ug/L | | | 11/09/11 20:36 | 2 |
| Trichlorofluoromethane | <2.0 | | 2.0 | 0.50 | ug/L | | | 11/09/11 20:36 | 2 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <2.0 | | 2.0 | 1.0 | ug/L | | | 11/09/11 20:36 | 2 |
| **Vinyl chloride** | **200** | | 2.0 | 0.36 | ug/L | | | 11/09/11 20:36 | 2 |
| **Xylenes, Total** | **3.4** | **J** | 4.0 | 0.40 | ug/L | | | 11/09/11 20:36 | 2 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: MW-27**
**Date Collected: 10/27/11 11:53**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-4**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 102 | | 70 - 130 | | 11/09/11 20:36 | 2 |
| Toluene-d8 (Surr) | 106 | | 70 - 130 | | 11/09/11 20:36 | 2 |
| Dibromofluoromethane | 89 | | 70 - 130 | | 11/09/11 20:36 | 2 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: MW-31**
**Date Collected: 10/27/11 11:03**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-5**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/08/11 17:58 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:58 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:58 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 17:58 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/08/11 17:58 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 17:58 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/08/11 17:58 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 17:58 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:58 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/08/11 17:58 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/08/11 17:58 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/08/11 17:58 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:58 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/08/11 17:58 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:58 | 1 |
| **1,1-Dichloroethane** | **0.65** | **J** | 1.0 | 0.25 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 17:58 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/08/11 17:58 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 17:58 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 17:58 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/08/11 17:58 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 17:58 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 17:58 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 17:58 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/08/11 17:58 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 17:58 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/08/11 17:58 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 17:58 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/08/11 17:58 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/08/11 17:58 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/08/11 17:58 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 17:58 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 17:58 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 17:58 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 17:58 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/08/11 17:58 | 1 |
| **Xylenes, Total** | **0.24** | **J** | 2.0 | 0.20 | ug/L | | | 11/08/11 17:58 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: MW-31**
**Date Collected: 10/27/11 11:03**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-5**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 111 | | 70 - 130 | | 11/08/11 17:58 | 1 |
| Toluene-d8 (Surr) | 108 | | 70 - 130 | | 11/08/11 17:58 | 1 |
| Dibromofluoromethane | 109 | | 70 - 130 | | 11/08/11 17:58 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: Trip Blank**
**Date Collected: 10/27/11 00:00**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-6**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/08/11 14:08 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 14:08 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 14:08 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 14:08 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/08/11 14:08 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 14:08 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/08/11 14:08 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 14:08 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 14:08 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/08/11 14:08 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/08/11 14:08 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/08/11 14:08 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 14:08 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/08/11 14:08 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 14:08 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/08/11 14:08 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 14:08 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 14:08 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/08/11 14:08 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 14:08 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 14:08 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 14:08 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/08/11 14:08 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 14:08 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/08/11 14:08 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 14:08 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/08/11 14:08 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/08/11 14:08 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/08/11 14:08 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,2,4-Trichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 14:08 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 14:08 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 14:08 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 14:08 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/08/11 14:08 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/08/11 14:08 | 1 |

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

**Client Sample ID: Trip Blank**
**Date Collected: 10/27/11 00:00**
**Date Received: 10/27/11 13:03**

**Lab Sample ID: 680-73812-6**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 114 | | 70 - 130 | | 11/08/11 14:08 | 1 |
| Toluene-d8 (Surr) | 108 | | 70 - 130 | | 11/08/11 14:08 | 1 |
| Dibromofluoromethane | 111 | | 70 - 130 | | 11/08/11 14:08 | 1 |

# Surrogate Summary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Water**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | |
|---|---|---|---|---|
| | | BFB | TOL | DBFM |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | (70-130) |
| 680-73812-1 | MW-19 | 104 | 108 | 112 |
| 680-73812-2 | MW-23 | 106 | 108 | 115 |
| 680-73812-3 | MW-25 | 101 | 101 | 100 |
| 680-73812-4 | MW-27 | 102 | 106 | 89 |
| 680-73812-5 | MW-31 | 111 | 108 | 109 |
| 680-73812-6 | Trip Blank | 114 | 108 | 111 |
| LCS 680-220351/7 | Lab Control Sample | 114 | 114 | 123 |
| LCS 680-220479/7 | Lab Control Sample | 91 | 96 | 98 |
| LCSD 680-220351/8 | Lab Control Sample Dup | 95 | 93 | 100 |
| LCSD 680-220479/8 | Lab Control Sample Dup | 91 | 101 | 98 |
| MB 680-220351/10 | Method Blank | 111 | 108 | 111 |
| MB 680-220479/10 | Method Blank | 99 | 102 | 99 |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 680-220351/10**
**Matrix: Water**
**Analysis Batch: 220351**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/08/11 12:13 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 12:13 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 12:13 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 12:13 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/08/11 12:13 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 12:13 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/08/11 12:13 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 12:13 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 12:13 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/08/11 12:13 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/08/11 12:13 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/08/11 12:13 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 12:13 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/08/11 12:13 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 12:13 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/08/11 12:13 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 12:13 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 12:13 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/08/11 12:13 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 12:13 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 12:13 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 12:13 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/08/11 12:13 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/08/11 12:13 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/08/11 12:13 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/08/11 12:13 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/08/11 12:13 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/08/11 12:13 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/08/11 12:13 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,2,4-Trichlorobenzene | 0.377 | J | 1.0 | 0.25 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 12:13 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/08/11 12:13 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/08/11 12:13 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/08/11 12:13 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/08/11 12:13 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/08/11 12:13 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-220351/10**
**Matrix: Water**
**Analysis Batch: 220351**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 111 | | 70 - 130 | | 11/08/11 12:13 | 1 |
| Toluene-d8 (Surr) | 108 | | 70 - 130 | | 11/08/11 12:13 | 1 |
| Dibromofluoromethane | 111 | | 70 - 130 | | 11/08/11 12:13 | 1 |

**Lab Sample ID: LCS 680-220351/7**
**Matrix: Water**
**Analysis Batch: 220351**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acetone | 100 | 87.3 | | ug/L | | 87 | 26 - 180 |
| Benzene | 50.0 | 58.6 | | ug/L | | 117 | 70 - 130 |
| Bromodichloromethane | 50.0 | 63.7 | | ug/L | | 127 | 70 - 130 |
| Bromoform | 50.0 | 55.0 | | ug/L | | 110 | 70 - 130 |
| Bromomethane | 50.0 | 28.6 | | ug/L | | 57 | 23 - 165 |
| 2-Butanone | 100 | 107 | | ug/L | | 107 | 49 - 172 |
| Carbon disulfide | 50.0 | 56.7 | | ug/L | | 113 | 54 - 132 |
| Carbon tetrachloride | 50.0 | 53.1 | | ug/L | | 106 | 70 - 130 |
| Chlorobenzene | 50.0 | 59.4 | | ug/L | | 119 | 70 - 130 |
| Chloroethane | 50.0 | 53.1 | | ug/L | | 106 | 56 - 152 |
| Chloroform | 50.0 | 60.3 | | ug/L | | 121 | 70 - 130 |
| Chloromethane | 50.0 | 60.9 | | ug/L | | 122 | 70 - 130 |
| Cyclohexane | 50.0 | 58.3 | | ug/L | | 117 | 70 - 132 |
| Dibromochloromethane | 50.0 | 56.9 | | ug/L | | 114 | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 50.9 | | ug/L | | 102 | 70 - 130 |
| 1,2-Dibromoethane | 50.0 | 61.2 | | ug/L | | 122 | 70 - 130 |
| 1,2-Dichlorobenzene | 50.0 | 57.4 | | ug/L | | 115 | 70 - 130 |
| 1,3-Dichlorobenzene | 50.0 | 56.7 | | ug/L | | 113 | 70 - 130 |
| 1,4-Dichlorobenzene | 50.0 | 58.2 | | ug/L | | 116 | 70 - 130 |
| Dichlorodifluoromethane | 50.0 | 53.9 | | ug/L | | 108 | 44 - 146 |
| 1,1-Dichloroethane | 50.0 | 53.7 | | ug/L | | 107 | 70 - 130 |
| 1,2-Dichloroethane | 50.0 | 59.0 | | ug/L | | 118 | 70 - 130 |
| 1,1-Dichloroethene | 50.0 | 53.8 | | ug/L | | 108 | 66 - 131 |
| cis-1,2-Dichloroethene | 50.0 | 60.7 | | ug/L | | 121 | 70 - 130 |
| trans-1,2-Dichloroethene | 50.0 | 60.1 | | ug/L | | 120 | 70 - 130 |
| 1,2-Dichloropropane | 50.0 | 59.3 | | ug/L | | 119 | 70 - 130 |
| cis-1,3-Dichloropropene | 50.0 | 63.8 | | ug/L | | 128 | 70 - 130 |
| trans-1,3-Dichloropropene | 50.0 | 58.0 | | ug/L | | 116 | 70 - 130 |
| Ethylbenzene | 50.0 | 58.0 | | ug/L | | 116 | 70 - 130 |
| 2-Hexanone | 100 | 117 | | ug/L | | 117 | 42 - 185 |
| Isopropylbenzene | 50.0 | 57.3 | | ug/L | | 115 | 70 - 130 |
| Methyl acetate | 50.0 | 54.0 | | ug/L | | 108 | 70 - 130 |
| Methylcyclohexane | 50.0 | 61.2 | | ug/L | | 122 | 70 - 134 |
| Methylene Chloride | 50.0 | 60.8 | | ug/L | | 122 | 67 - 130 |
| 4-Methyl-2-pentanone | 100 | 117 | | ug/L | | 117 | 70 - 130 |
| Methyl tert-butyl ether | 100 | 121 | | ug/L | | 121 | 64 - 131 |
| Styrene | 50.0 | 58.7 | | ug/L | | 117 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 60.0 | | ug/L | | 120 | 70 - 130 |
| Tetrachloroethene | 50.0 | 60.5 | | ug/L | | 121 | 70 - 130 |
| Toluene | 50.0 | 58.3 | | ug/L | | 117 | 70 - 130 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-220351/7**
**Matrix: Water**
**Analysis Batch: 220351**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 50.0 | 60.7 | | ug/L | | 121 | 65 - 130 |
| 1,1,1-Trichloroethane | 50.0 | 54.1 | | ug/L | | 108 | 70 - 130 |
| 1,1,2-Trichloroethane | 50.0 | 59.1 | | ug/L | | 118 | 70 - 130 |
| Trichloroethene | 50.0 | 59.0 | | ug/L | | 118 | 70 - 130 |
| Trichlorofluoromethane | 50.0 | 52.9 | | ug/L | | 106 | 55 - 156 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 53.9 | | ug/L | | 108 | 60 - 135 |
| Vinyl chloride | 50.0 | 56.0 | | ug/L | | 112 | 67 - 134 |
| Xylenes, Total | 150 | 172 | | ug/L | | 114 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *114* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *114* | | *70 - 130* |
| *Dibromofluoromethane* | *123* | | *70 - 130* |

**Lab Sample ID: LCSD 680-220351/8**
**Matrix: Water**
**Analysis Batch: 220351**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 100 | 70.2 | | ug/L | | 70 | 26 - 180 | 22 | 50 |
| Benzene | 50.0 | 48.8 | | ug/L | | 98 | 70 - 130 | 18 | 30 |
| Bromodichloromethane | 50.0 | 50.2 | | ug/L | | 100 | 70 - 130 | 24 | 30 |
| Bromoform | 50.0 | 42.8 | | ug/L | | 86 | 70 - 130 | 25 | 30 |
| Bromomethane | 50.0 | 43.7 | | ug/L | | 87 | 23 - 165 | 42 | 50 |
| 2-Butanone | 100 | 83.9 | | ug/L | | 84 | 49 - 172 | 24 | 30 |
| Carbon disulfide | 50.0 | 47.5 | | ug/L | | 95 | 54 - 132 | 18 | 30 |
| Carbon tetrachloride | 50.0 | 43.0 | | ug/L | | 86 | 70 - 130 | 21 | 30 |
| Chlorobenzene | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 | 17 | 30 |
| Chloroethane | 50.0 | 45.4 | | ug/L | | 91 | 56 - 152 | 16 | 40 |
| Chloroform | 50.0 | 49.6 | | ug/L | | 99 | 70 - 130 | 19 | 30 |
| Chloromethane | 50.0 | 49.7 | | ug/L | | 99 | 70 - 130 | 20 | 30 |
| Cyclohexane | 50.0 | 47.7 | | ug/L | | 95 | 70 - 132 | 20 | 30 |
| Dibromochloromethane | 50.0 | 45.2 | | ug/L | | 90 | 70 - 130 | 23 | 50 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 41.6 | | ug/L | | 83 | 70 - 130 | 20 | 50 |
| 1,2-Dibromoethane | 50.0 | 47.2 | | ug/L | | 94 | 70 - 130 | 26 | 30 |
| 1,2-Dichlorobenzene | 50.0 | 48.9 | | ug/L | | 98 | 70 - 130 | 16 | 30 |
| 1,3-Dichlorobenzene | 50.0 | 48.7 | | ug/L | | 97 | 70 - 130 | 15 | 30 |
| 1,4-Dichlorobenzene | 50.0 | 49.1 | | ug/L | | 98 | 70 - 130 | 17 | 30 |
| Dichlorodifluoromethane | 50.0 | 43.3 | | ug/L | | 87 | 44 - 146 | 22 | 50 |
| 1,1-Dichloroethane | 50.0 | 46.4 | | ug/L | | 93 | 70 - 130 | 15 | 30 |
| 1,2-Dichloroethane | 50.0 | 48.0 | | ug/L | | 96 | 70 - 130 | 21 | 30 |
| 1,1-Dichloroethene | 50.0 | 45.8 | | ug/L | | 92 | 66 - 131 | 16 | 30 |
| cis-1,2-Dichloroethene | 50.0 | 50.6 | | ug/L | | 101 | 70 - 130 | 18 | 30 |
| trans-1,2-Dichloroethene | 50.0 | 50.9 | | ug/L | | 102 | 70 - 130 | 17 | 30 |
| 1,2-Dichloropropane | 50.0 | 47.2 | | ug/L | | 94 | 70 - 130 | 23 | 30 |
| cis-1,3-Dichloropropene | 50.0 | 50.0 | | ug/L | | 100 | 70 - 130 | 24 | 30 |
| trans-1,3-Dichloropropene | 50.0 | 44.6 | | ug/L | | 89 | 70 - 130 | 26 | 50 |
| Ethylbenzene | 50.0 | 51.0 | | ug/L | | 102 | 70 - 130 | 13 | 30 |
| 2-Hexanone | 100 | 92.4 | | ug/L | | 92 | 42 - 185 | 24 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-220351/8**
**Matrix: Water**
**Analysis Batch: 220351**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Isopropylbenzene | | | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 | 13 | 30 |
| Methyl acetate | | | 50.0 | 41.6 | | ug/L | | 83 | 70 - 130 | 26 | 30 |
| Methylcyclohexane | | | 50.0 | 49.7 | | ug/L | | 99 | 70 - 134 | 21 | 30 |
| Methylene Chloride | | | 50.0 | 50.3 | | ug/L | | 101 | 67 - 130 | 19 | 30 |
| 4-Methyl-2-pentanone | | | 100 | 91.7 | | ug/L | | 92 | 70 - 130 | 24 | 30 |
| Methyl tert-butyl ether | | | 100 | 102 | | ug/L | | 102 | 64 - 131 | 17 | 30 |
| Styrene | | | 50.0 | 49.6 | | ug/L | | 99 | 70 - 130 | 17 | 30 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 48.8 | | ug/L | | 98 | 70 - 130 | 21 | 30 |
| Tetrachloroethene | | | 50.0 | 51.7 | | ug/L | | 103 | 70 - 130 | 16 | 30 |
| Toluene | | | 50.0 | 47.9 | | ug/L | | 96 | 70 - 130 | 20 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 51.7 | | ug/L | | 103 | 65 - 130 | 16 | 30 |
| 1,1,1-Trichloroethane | | | 50.0 | 44.9 | | ug/L | | 90 | 70 - 130 | 19 | 30 |
| 1,1,2-Trichloroethane | | | 50.0 | 47.2 | | ug/L | | 94 | 70 - 130 | 22 | 30 |
| Trichloroethene | | | 50.0 | 48.1 | | ug/L | | 96 | 70 - 130 | 20 | 30 |
| Trichlorofluoromethane | | | 50.0 | 44.3 | | ug/L | | 89 | 55 - 156 | 18 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 45.9 | | ug/L | | 92 | 60 - 135 | 16 | 30 |
| Vinyl chloride | | | 50.0 | 44.6 | | ug/L | | 89 | 67 - 134 | 23 | 30 |
| Xylenes, Total | | | 150 | 147 | | ug/L | | 98 | 70 - 130 | 15 | 30 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *95* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *93* | | *70 - 130* |
| *Dibromofluoromethane* | *100* | | *70 - 130* |

**Lab Sample ID: MB 680-220479/10**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <25 | | 25 | 5.0 | ug/L | | | 11/09/11 12:22 | 1 |
| Benzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| Bromodichloromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| Bromoform | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 12:22 | 1 |
| Bromomethane | <1.0 | | 1.0 | 0.80 | ug/L | | | 11/09/11 12:22 | 1 |
| 2-Butanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 12:22 | 1 |
| Carbon disulfide | <2.0 | | 2.0 | 0.60 | ug/L | | | 11/09/11 12:22 | 1 |
| Carbon tetrachloride | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 12:22 | 1 |
| Chlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| Chloroethane | <1.0 | | 1.0 | 1.0 | ug/L | | | 11/09/11 12:22 | 1 |
| Chloroform | <1.0 | | 1.0 | 0.14 | ug/L | | | 11/09/11 12:22 | 1 |
| Chloromethane | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/09/11 12:22 | 1 |
| Cyclohexane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| Dibromochloromethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.0 | | 1.0 | 0.44 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2-Dibromoethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2-Dichlorobenzene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,3-Dichlorobenzene | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,4-Dichlorobenzene | <1.0 | | 1.0 | 0.28 | ug/L | | | 11/09/11 12:22 | 1 |
| Dichlorodifluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-220479/10**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2-Dichloroethane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,1-Dichloroethene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 12:22 | 1 |
| cis-1,2-Dichloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/09/11 12:22 | 1 |
| trans-1,2-Dichloroethene | <1.0 | | 1.0 | 0.20 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2-Dichloropropane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 12:22 | 1 |
| cis-1,3-Dichloropropene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 12:22 | 1 |
| trans-1,3-Dichloropropene | <1.0 | | 1.0 | 0.21 | ug/L | | | 11/09/11 12:22 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 12:22 | 1 |
| 2-Hexanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 12:22 | 1 |
| Isopropylbenzene | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 12:22 | 1 |
| Methyl acetate | <1.0 | | 1.0 | 0.19 | ug/L | | | 11/09/11 12:22 | 1 |
| Methylcyclohexane | <1.0 | | 1.0 | 0.10 | ug/L | | | 11/09/11 12:22 | 1 |
| Methylene Chloride | <5.0 | | 5.0 | 1.0 | ug/L | | | 11/09/11 12:22 | 1 |
| 4-Methyl-2-pentanone | <10 | | 10 | 1.0 | ug/L | | | 11/09/11 12:22 | 1 |
| Methyl tert-butyl ether | <10 | | 10 | 0.20 | ug/L | | | 11/09/11 12:22 | 1 |
| Styrene | <1.0 | | 1.0 | 0.11 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,1,2,2-Tetrachloroethane | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/09/11 12:22 | 1 |
| Tetrachloroethene | <1.0 | | 1.0 | 0.15 | ug/L | | | 11/09/11 12:22 | 1 |
| Toluene | <1.0 | | 1.0 | 0.33 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,2,4-Trichlorobenzene | 0.345 | J | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,1,1-Trichloroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,1,2-Trichloroethane | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 12:22 | 1 |
| Trichloroethene | <1.0 | | 1.0 | 0.13 | ug/L | | | 11/09/11 12:22 | 1 |
| Trichlorofluoromethane | <1.0 | | 1.0 | 0.25 | ug/L | | | 11/09/11 12:22 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 1.0 | 0.50 | ug/L | | | 11/09/11 12:22 | 1 |
| Vinyl chloride | <1.0 | | 1.0 | 0.18 | ug/L | | | 11/09/11 12:22 | 1 |
| Xylenes, Total | <2.0 | | 2.0 | 0.20 | ug/L | | | 11/09/11 12:22 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene* | *99* | | *70 - 130* | | *11/09/11 12:22* | *1* |
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *11/09/11 12:22* | *1* |
| *Dibromofluoromethane* | *99* | | *70 - 130* | | *11/09/11 12:22* | *1* |

**Lab Sample ID: LCS 680-220479/7**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acetone | 100 | 125 | | ug/L | | 125 | 26 - 180 |
| Benzene | 50.0 | 48.3 | | ug/L | | 97 | 70 - 130 |
| Bromodichloromethane | 50.0 | 50.6 | | ug/L | | 101 | 70 - 130 |
| Bromoform | 50.0 | 54.5 | | ug/L | | 109 | 70 - 130 |
| Bromomethane | 50.0 | 37.0 | | ug/L | | 74 | 23 - 165 |
| 2-Butanone | 100 | 115 | | ug/L | | 115 | 49 - 172 |
| Carbon disulfide | 50.0 | 49.8 | | ug/L | | 100 | 54 - 132 |
| Carbon tetrachloride | 50.0 | 51.8 | | ug/L | | 104 | 70 - 130 |
| Chlorobenzene | 50.0 | 47.2 | | ug/L | | 94 | 70 - 130 |
| Chloroethane | 50.0 | 47.6 | | ug/L | | 95 | 56 - 152 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-220479/7**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Chloroform | 50.0 | 50.1 | | ug/L | | 100 | 70 - 130 |
| Chloromethane | 50.0 | 50.4 | | ug/L | | 101 | 70 - 130 |
| Cyclohexane | 50.0 | 49.7 | | ug/L | | 99 | 70 - 132 |
| Dibromochloromethane | 50.0 | 52.7 | | ug/L | | 105 | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 48.2 | | ug/L | | 96 | 70 - 130 |
| 1,2-Dibromoethane | 50.0 | 51.8 | | ug/L | | 104 | 70 - 130 |
| 1,2-Dichlorobenzene | 50.0 | 61.2 | | ug/L | | 122 | 70 - 130 |
| 1,3-Dichlorobenzene | 50.0 | 46.0 | | ug/L | | 92 | 70 - 130 |
| 1,4-Dichlorobenzene | 50.0 | 48.9 | | ug/L | | 98 | 70 - 130 |
| Dichlorodifluoromethane | 50.0 | 46.6 | | ug/L | | 93 | 44 - 146 |
| 1,1-Dichloroethane | 50.0 | 48.4 | | ug/L | | 97 | 70 - 130 |
| 1,2-Dichloroethane | 50.0 | 48.7 | | ug/L | | 97 | 70 - 130 |
| 1,1-Dichloroethene | 50.0 | 49.3 | | ug/L | | 99 | 66 - 131 |
| cis-1,2-Dichloroethene | 50.0 | 48.8 | | ug/L | | 98 | 70 - 130 |
| trans-1,2-Dichloroethene | 50.0 | 50.1 | | ug/L | | 100 | 70 - 130 |
| 1,2-Dichloropropane | 50.0 | 49.2 | | ug/L | | 98 | 70 - 130 |
| cis-1,3-Dichloropropene | 50.0 | 51.5 | | ug/L | | 103 | 70 - 130 |
| trans-1,3-Dichloropropene | 50.0 | 53.1 | | ug/L | | 106 | 70 - 130 |
| Ethylbenzene | 50.0 | 47.1 | | ug/L | | 94 | 70 - 130 |
| 2-Hexanone | 100 | 109 | | ug/L | | 109 | 42 - 185 |
| Isopropylbenzene | 50.0 | 48.3 | | ug/L | | 97 | 70 - 130 |
| Methyl acetate | 50.0 | 46.0 | | ug/L | | 92 | 70 - 130 |
| Methylcyclohexane | 50.0 | 52.7 | | ug/L | | 105 | 70 - 134 |
| Methylene Chloride | 50.0 | 49.0 | | ug/L | | 98 | 67 - 130 |
| 4-Methyl-2-pentanone | 100 | 103 | | ug/L | | 103 | 70 - 130 |
| Methyl tert-butyl ether | 100 | 102 | | ug/L | | 102 | 64 - 131 |
| Styrene | 50.0 | 48.5 | | ug/L | | 97 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 49.1 | | ug/L | | 98 | 70 - 130 |
| Tetrachloroethene | 50.0 | 48.0 | | ug/L | | 96 | 70 - 130 |
| Toluene | 50.0 | 48.5 | | ug/L | | 97 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 50.0 | 66.4 | * | ug/L | | 133 | 65 - 130 |
| 1,1,1-Trichloroethane | 50.0 | 50.6 | | ug/L | | 101 | 70 - 130 |
| 1,1,2-Trichloroethane | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 |
| Trichloroethene | 50.0 | 48.6 | | ug/L | | 97 | 70 - 130 |
| Trichlorofluoromethane | 50.0 | 50.8 | | ug/L | | 102 | 55 - 156 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 49.1 | | ug/L | | 98 | 60 - 135 |
| Vinyl chloride | 50.0 | 49.4 | | ug/L | | 99 | 67 - 134 |
| Xylenes, Total | 150 | 143 | | ug/L | | 95 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene* | *91* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *96* | | *70 - 130* |
| *Dibromofluoromethane* | *98* | | *70 - 130* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-220479/8**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 100 | 131 | | ug/L | | 131 | 26 - 180 | 5 | 50 |
| Benzene | 50.0 | 50.4 | | ug/L | | 101 | 70 - 130 | 4 | 30 |
| Bromodichloromethane | 50.0 | 52.1 | | ug/L | | 104 | 70 - 130 | 3 | 30 |
| Bromoform | 50.0 | 55.0 | | ug/L | | 110 | 70 - 130 | 1 | 30 |
| Bromomethane | 50.0 | 50.8 | | ug/L | | 102 | 23 - 165 | 31 | 50 |
| 2-Butanone | 100 | 119 | | ug/L | | 119 | 49 - 172 | 3 | 30 |
| Carbon disulfide | 50.0 | 50.6 | | ug/L | | 101 | 54 - 132 | 1 | 30 |
| Carbon tetrachloride | 50.0 | 53.1 | | ug/L | | 106 | 70 - 130 | 2 | 30 |
| Chlorobenzene | 50.0 | 48.7 | | ug/L | | 97 | 70 - 130 | 3 | 30 |
| Chloroethane | 50.0 | 49.4 | | ug/L | | 99 | 56 - 152 | 4 | 40 |
| Chloroform | 50.0 | 50.4 | | ug/L | | 101 | 70 - 130 | 1 | 30 |
| Chloromethane | 50.0 | 51.8 | | ug/L | | 104 | 70 - 130 | 3 | 30 |
| Cyclohexane | 50.0 | 52.1 | | ug/L | | 104 | 70 - 132 | 5 | 30 |
| Dibromochloromethane | 50.0 | 53.8 | | ug/L | | 108 | 70 - 130 | 2 | 50 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 49.7 | | ug/L | | 99 | 70 - 130 | 3 | 50 |
| 1,2-Dibromoethane | 50.0 | 53.9 | | ug/L | | 108 | 70 - 130 | 4 | 30 |
| 1,2-Dichlorobenzene | 50.0 | 63.6 | | ug/L | | 127 | 70 - 130 | 4 | 30 |
| 1,3-Dichlorobenzene | 50.0 | 46.8 | | ug/L | | 94 | 70 - 130 | 2 | 30 |
| 1,4-Dichlorobenzene | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 | 3 | 30 |
| Dichlorodifluoromethane | 50.0 | 46.7 | | ug/L | | 93 | 44 - 146 | 0 | 50 |
| 1,1-Dichloroethane | 50.0 | 49.8 | | ug/L | | 100 | 70 - 130 | 3 | 30 |
| 1,2-Dichloroethane | 50.0 | 49.8 | | ug/L | | 100 | 70 - 130 | 2 | 30 |
| 1,1-Dichloroethene | 50.0 | 51.2 | | ug/L | | 102 | 66 - 131 | 4 | 30 |
| cis-1,2-Dichloroethene | 50.0 | 50.0 | | ug/L | | 100 | 70 - 130 | 2 | 30 |
| trans-1,2-Dichloroethene | 50.0 | 50.7 | | ug/L | | 101 | 70 - 130 | 1 | 30 |
| 1,2-Dichloropropane | 50.0 | 50.8 | | ug/L | | 102 | 70 - 130 | 3 | 30 |
| cis-1,3-Dichloropropene | 50.0 | 52.1 | | ug/L | | 104 | 70 - 130 | 1 | 30 |
| trans-1,3-Dichloropropene | 50.0 | 53.9 | | ug/L | | 108 | 70 - 130 | 2 | 50 |
| Ethylbenzene | 50.0 | 48.5 | | ug/L | | 97 | 70 - 130 | 3 | 30 |
| 2-Hexanone | 100 | 111 | | ug/L | | 111 | 42 - 185 | 2 | 30 |
| Isopropylbenzene | 50.0 | 48.9 | | ug/L | | 98 | 70 - 130 | 1 | 30 |
| Methyl acetate | 50.0 | 46.9 | | ug/L | | 94 | 70 - 130 | 2 | 30 |
| Methylcyclohexane | 50.0 | 54.3 | | ug/L | | 109 | 70 - 134 | 3 | 30 |
| Methylene Chloride | 50.0 | 51.0 | | ug/L | | 102 | 67 - 130 | 4 | 30 |
| 4-Methyl-2-pentanone | 100 | 105 | | ug/L | | 105 | 70 - 130 | 3 | 30 |
| Methyl tert-butyl ether | 100 | 105 | | ug/L | | 105 | 64 - 131 | 3 | 30 |
| Styrene | 50.0 | 49.8 | | ug/L | | 100 | 70 - 130 | 3 | 30 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 50.0 | | ug/L | | 100 | 70 - 130 | 2 | 30 |
| Tetrachloroethene | 50.0 | 47.3 | | ug/L | | 95 | 70 - 130 | 1 | 30 |
| Toluene | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 | 4 | 30 |
| 1,2,4-Trichlorobenzene | 50.0 | 68.6 | * | ug/L | | 137 | 65 - 130 | 3 | 30 |
| 1,1,1-Trichloroethane | 50.0 | 51.6 | | ug/L | | 103 | 70 - 130 | 2 | 30 |
| 1,1,2-Trichloroethane | 50.0 | 52.3 | | ug/L | | 105 | 70 - 130 | 4 | 30 |
| Trichloroethene | 50.0 | 50.3 | | ug/L | | 101 | 70 - 130 | 3 | 30 |
| Trichlorofluoromethane | 50.0 | 52.8 | | ug/L | | 106 | 55 - 156 | 4 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 50.1 | | ug/L | | 100 | 60 - 135 | 2 | 30 |
| Vinyl chloride | 50.0 | 52.7 | | ug/L | | 105 | 67 - 134 | 6 | 30 |
| Xylenes, Total | 150 | 145 | | ug/L | | 97 | 70 - 130 | 1 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-220479/8**
**Matrix: Water**
**Analysis Batch: 220479**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| 4-Bromofluorobenzene | 91 | | 70 - 130 |
| Toluene-d8 (Surr) | 101 | | 70 - 130 |
| Dibromofluoromethane | 98 | | 70 - 130 |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

## Client Sample ID: MW-19
**Lab Sample ID: 680-73812-1**
**Date Collected: 10/27/11 09:42**
**Matrix: Water**
**Date Received: 10/27/11 13:03**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220351 | 11/08/11 16:49 | AJMC | TAL SAV |

## Client Sample ID: MW-23
**Lab Sample ID: 680-73812-2**
**Date Collected: 10/27/11 10:23**
**Matrix: Water**
**Date Received: 10/27/11 13:03**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220351 | 11/08/11 17:12 | AJMC | TAL SAV |

## Client Sample ID: MW-25
**Lab Sample ID: 680-73812-3**
**Date Collected: 10/27/11 08:51**
**Matrix: Water**
**Date Received: 10/27/11 13:03**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220479 | 11/09/11 20:13 | AJMC | TAL SAV |

## Client Sample ID: MW-27
**Lab Sample ID: 680-73812-4**
**Date Collected: 10/27/11 11:53**
**Matrix: Water**
**Date Received: 10/27/11 13:03**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 2 | 220479 | 11/09/11 20:36 | AJMC | TAL SAV |

## Client Sample ID: MW-31
**Lab Sample ID: 680-73812-5**
**Date Collected: 10/27/11 11:03**
**Matrix: Water**
**Date Received: 10/27/11 13:03**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220351 | 11/08/11 17:58 | AJMC | TAL SAV |

## Client Sample ID: Trip Blank
**Lab Sample ID: 680-73812-6**
**Date Collected: 10/27/11 00:00**
**Matrix: Water**
**Date Received: 10/27/11 13:03**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 220351 | 11/08/11 14:08 | AJMC | TAL SAV |

**Laboratory References:**

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Serial Number 045558

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location
Phone:
Fax:


| | | | |
|---|---|---|---|
| PROJECT REFERENCE: Plant Savannah | PROJECT NO. 390020 | PROJECT LOCATION (STATE) GA | |
| TAL (LAB) PROJECT MANAGER | P.O. NUMBER | CONTRACT NO. | |
| CLIENT (SITE) PM: Alan Sanders | CLIENT PHONE: 770-772-7100 | CLIENT FAX: -0555 | |
| CLIENT NAME: Alan Sanders | CLIENT E-MAIL: asanders@sicusa.com | | |
| CLIENT ADDRESS: 161 Kimball Bridge Rd, Alpharetta, GA 30009 | | | |
| COMPANY CONTRACTING THIS WORK (if applicable) | | | |

PAGE 1 OF

STANDARD REPORT DELIVERY ✓

DATE DUE

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | COMPOSITE (C) OR GRAB (G) INDICATE | MATRIX: AQUEOUS (WATER) | MATRIX: SOLID OR SEMISOLID | MATRIX: AIR | MATRIX: NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | REQUIRED ANALYSIS: 8260B | REQUIRED ANALYSIS: To 60 determined | REQUIRED ANALYSIS: HCl | REQUIRED ANALYSIS: H2O PRESERVATIVE | NUMBER OF CONTAINERS SUBMITTED | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/27/11 | 9:42 | MW-19 | G | X | | | | 3 | 3 | | | | |
| 10/27/11 | 10:23 | MW-23 | G | X | | | | 3 | 3 | | | | |
| 10/27/11 | 8:51 | MW-25 | G | X | | | | 3 | 3 | | | | |
| 10/27/11 | 11:53 | MW-27 | G | X | | | | 3 | 3 | | | | |
| 10/27/11 | 11:03 | MW-31 | G | X | | | | 3 | 3 | | | | |
| | | | | | | | | | | | | 2 | |

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| | 10/28/11 | 13:03 | | | | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| | | | | | | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| George K Gunn | 10/28/11 | 1343 | YES ○ NO ○ | | 680-73812 | 4.6°C |

# Login Sample Receipt Checklist

Client: Environmental International Corporation

Job Number: 680-73812-1

**Login Number: 73812**

**List Source: TestAmerica Savannah**

**List Number: 1**

**Creator: Conner, Keaton**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | N/A | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

# Certification Summary

Client: Environmental International Corporation
Project/Site: GW Sampling PN #390010 / Savannah GA

TestAmerica Job ID: 680-73812-1

| Laboratory | Authority | Program | EPA Region | Certification ID |
|---|---|---|---|---|
| TestAmerica Savannah | A2LA | DoD ELAP | | 0399-01 |
| TestAmerica Savannah | A2LA | ISO/IEC 17025 | | 399.01 |
| TestAmerica Savannah | Alabama | State Program | 4 | 41450 |
| TestAmerica Savannah | Arkansas | Arkansas DOH | 6 | N/A |
| TestAmerica Savannah | Arkansas | State Program | 6 | 88-0692 |
| TestAmerica Savannah | California | NELAC | 9 | 3217CA |
| TestAmerica Savannah | Colorado | State Program | 8 | N/A |
| TestAmerica Savannah | Connecticut | State Program | 1 | PH-0161 |
| TestAmerica Savannah | Delaware | State Program | 3 | N/A |
| TestAmerica Savannah | Florida | NELAC | 4 | E87052 |
| TestAmerica Savannah | Georgia | Georgia EPD | 4 | N/A |
| TestAmerica Savannah | Georgia | State Program | 4 | 803 |
| TestAmerica Savannah | Guam | State Program | 9 | 09-005r |
| TestAmerica Savannah | Hawaii | State Program | 9 | N/A |
| TestAmerica Savannah | Illinois | NELAC | 5 | 200022 |
| TestAmerica Savannah | Indiana | State Program | 5 | N/A |
| TestAmerica Savannah | Iowa | State Program | 7 | 353 |
| TestAmerica Savannah | Kentucky | Kentucky UST | 4 | 18 |
| TestAmerica Savannah | Kentucky | State Program | 4 | 90084 |
| TestAmerica Savannah | Louisiana | NELAC | 6 | 30690 |
| TestAmerica Savannah | Louisiana | NELAC | 6 | LA100015 |
| TestAmerica Savannah | Maine | State Program | 1 | GA00006 |
| TestAmerica Savannah | Maryland | State Program | 3 | 250 |
| TestAmerica Savannah | Massachusetts | State Program | 1 | M-GA006 |
| TestAmerica Savannah | Michigan | State Program | 5 | 9925 |
| TestAmerica Savannah | Mississippi | State Program | 4 | N/A |
| TestAmerica Savannah | Montana | State Program | 8 | CERT0081 |
| TestAmerica Savannah | Nebraska | State Program | 7 | TestAmerica-Savannah |
| TestAmerica Savannah | New Jersey | NELAC | 2 | GA769 |
| TestAmerica Savannah | New Mexico | State Program | 6 | N/A |
| TestAmerica Savannah | New York | NELAC | 2 | 10842 |
| TestAmerica Savannah | North Carolina | North Carolina DENR | 4 | 269 |
| TestAmerica Savannah | North Carolina | North Carolina PHL | 4 | 13701 |
| TestAmerica Savannah | Oklahoma | State Program | 6 | 9984 |
| TestAmerica Savannah | Pennsylvania | NELAC | 3 | 68-00474 |
| TestAmerica Savannah | Puerto Rico | State Program | 2 | GA00006 |
| TestAmerica Savannah | Rhode Island | State Program | 1 | LAO00244 |
| TestAmerica Savannah | South Carolina | State Program | 4 | 98001 |
| TestAmerica Savannah | Tennessee | State Program | 4 | TN02961 |
| TestAmerica Savannah | Texas | NELAC | 6 | T104704185-08-TX |
| TestAmerica Savannah | USDA | USDA | | SAV 3-04 |
| TestAmerica Savannah | Vermont | State Program | 1 | 87052 |
| TestAmerica Savannah | Virginia | NELAC Secondary AB | 3 | 460161 |
| TestAmerica Savannah | Virginia | State Program | 3 | 302 |
| TestAmerica Savannah | Washington | State Program | 10 | C1794 |
| TestAmerica Savannah | West Virginia | West Virginia DEP | 3 | 94 |
| TestAmerica Savannah | West Virginia | West Virginia DHHR (DW) | 3 | 9950C |
| TestAmerica Savannah | Wisconsin | State Program | 5 | 999819810 |
| TestAmerica Savannah | Wyoming | State Program | 8 | 8TMS-Q |

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

HSI SITE NO. 10464, PCE REMEDIATION, VOPAK TERMINAL SAVANNAH

# COMPLIANCE STATUS REPORT

# EXHIBIT C:
# Fifth VIRP Semi-annual Progress Report

**(Included on Enclosed CD)**

ENVIRONMENTAL INTERNATIONAL CORPORATION
161 Kimball Bridge Road, Suite 100, Alpharetta, GA 30009
Phone: 770-772-7100, Fax: 770-772-0555
Email: rajmahadevaiah@eicusa.com
Website:www.eicusa.com

*Our Contribution to the Environment®*

February 28, 2014

Mr. Jason Metzger
Georgia Department of Natural Resources
Response and Remediation Program
Suite 1462 East Tower
2 Martin Luther King, Jr. Drive, S.E.
Atlanta, Georgia 30334-9000

**Subject:** **Fifth VIRP Semi-annual Progress Report**
**VOPAK Terminal Savannah**
**HSI Site No. 10464**
**Turner and Hart Street, Savannah, Chatham County, Georgia**
**Tax Parcel: 1-0618-01-003L**

Dear Mr. Metzger:

On behalf of VOPAK Terminal Savannah, Inc. Environmental International Corporation (EIC) is pleased to submit the attached fifth VIRP Semi-annual Progress Report for the above referenced site.

Enclosed are the following:

1. One signed and sealed certification page for the Semiannual Report.
2. One bound paper copy of the Fifth VIRP Semi-annual Progress Report.
3. Two Compact Discs each with the report in searchable PDF format.

If you have any questions regarding this submittal, please contact Mr. Branden Jones of VOPAK at 912-964-1811 extn.114 or me at the above location.

Sincerely,
ENVIRONMENTAL INTERNATIONAL CORPORATION

Raj Mahadevaiah, P.E., C.G.W.P.
President & CEO

Cc: Branden Jones, VOPAK
Natalie Dawn, GPA

**CERTIFICATION AND SUPPORTING DOCUMENTATIONS**
**Fifth VIRP Semi-annual Progress Report**
**VOPAK Terminal Savannah**
**HSI Site No. 10464**
**February 28, 2014**

*"I certify under penalty of law that the accompanying report referenced above and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.*

*Furthermore, to document my direct oversight of the Voluntary Investigation and Remediation Plan (VIRP) development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.*

*The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

Basavaraj Mahadevaiah, GA PE No. 23198
Environmental International Corporation
770-772-7100, ext. 223

2/28/14
Date

GEORGIA REGISTERED No. 23198 PROFESSIONAL ENGINEER BASAVARAJ MAHADEVAIAH

Signature and Stamp

EIC

PCE REMEDIATION, HSI SITE 10464, VOPAK TERMINAL SAVANNAH, GEORGIA

# FIFTH VIRP SEMI-ANNUAL PROGRESS REPORT

---

February 28, 2014

Submitted To:
**GEORGIA ENVIRONMENTAL PROTECTION DIVISION**
Georgia Department of Natural Resources
Response and Remediation Program
Suite 1462 East Tower
2 Martin Luther King Jr. Drive, S.E.
Atlanta, Georgia 30334

Prepared for:
**VOPAK TERMINAL SAVANNAH**
P.O. Box 7390
Savannah, Georgia 31418-7390

Prepared by:
**ENVIRONMENTAL INTERNATIONAL CORPORATION**
161 Kimball Bridge Road, Suite 100, Alpharetta, GA 30009, USA
Phone 770.772.7100 • Fax 770.772.0555
http://www.eicusa.com

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B. EIC Well Purging and Sampling Data Field Logs, 4th Quarter 2013
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SECTION 1

# 1. INTRODUCTION

On behalf of VOPAK, Environmental International Corporation (EIC) is pleased to submit the Fifth VIRP Semi-annual Progress Report for review by the Georgia Environmental Protection Division (EPD). This report was prepared as specified in the April 2, 2011 "Revised Voluntary Investigation and Remediation Plan (VIRP) and Application" that was approved by the EPD on August 31, 2011 under the Voluntary Remediation Program (VRP).

## 1.1 PRIMARY OBJECTIVES

The primary objective of this report is to present a compilation of tasks completed by EIC during the six-month time frame that covers the period from September 2013 through February 2014. This report documents the following tasks:

- EPD Comment letter
- Upgrades to monitoring well network
- Continued evaluation of COC trends
- Evaluation of down-hole MNA indicator parameters

The following sections describe each task.

SECTION

2

# 2. EPD COMMENT LETTER

VOPAK received a letter from the EPD, dated November 20, 2012, commenting on its review of the first two semi-annual progress reports that VOPAK submitted in February 2012 and August 2012. This letter is the last official response that VOPAK has received from the EPD. EIC provided a response to this letter in the fourth semiannual report (EIC, 2013b). The following subsections further address EPD's comments.

## 2.1 HORIZONTAL DELINEATION

The EPD's first comment was that vinyl chloride (VC) continued to exceed Type 1 RRS in well MW-27 requiring VOPAK to complete horizontal delineation beyond VOPAK'S property to the north. The facility immediately to the north of VOPAK's property is owned and operated by the Georgia Ports Authority (GPA). In addition, VOPAK recognized that the horizontal extent of the CVOC plume was not fully delineated to the south of VOPAK's property. The property to the south of VOPAK is owned by GAF Manufacturing, Inc. (GAF).

As described in Section 3, EIC proposed locations for three new groundwater monitoring wells to complete the off-site delineation of the CVOC plume. Immediately after VOPAK negotiated a right of entry with GPA, EIC installed the two new wells on GPA property in December 2013. MW-35 was installed at a location northwest and hydraulically down-gradient of MW-27 and well MW-36 was installed north of and down-gradient of MW-32. The third well, MW-37, was installed on GAF property south of and up-gradient of MW-26R. As described in Section 4, analytical results of COC concentrations from these new wells have enabled complete horizontal delineation of all COC down-gradient of the previously established COC footprint and enabled VOPAK in addressing EPD's concern about the VC plume down-gradient of MW-27. However, as also discussed in Section 4, analytical results from the new well MW-37 indicate the presence of CVOC hydraulically up-gradient of the original foot-print on GAF property. This potential extent will be further verified from the next quarterly sampling event.

## 2.2 WELL ABANDONMENT AND REHABILITATION

The EPD's second comment in the November 20, 2012 letter was that wells MW-14, MW-20, MW-21, and MW-28, that have not been located since April 2010, need to be located and added to the monitoring network. In the event that the wells in question were not useful for the monitoring program, EPD also required that VOPAK make every attempt to locate and properly abandon these wells. Also, EPD stated that the silted wells MW-15 and MW-22R should either be rehabilitated or properly abandoned.

As reported in the fourth VIRP semiannual report submitted in January 2013, EIC utilized a licensed surveyor to successfully locate well MW-14 but was unable to locate wells MW-20, MW-21, nor MW-28. In October, 2013 EIC re-developed MW-14, and added that well to the monitoring well network. In December 2013, as described in Section 3, EIC attempted to locate additional un-located wells IW-1, IW-2, IW-5, IW-13, and MW-26 for abandonment. Of these, EIC located wells IW-1, and IW-2. Also in December, EIC properly abandoned the known silted wells MW-15 and MW-22 and attempted to abandon wells IW-1, and IW-2.

At VOPAK's request, EIC utilized a licensed well driller to install a protective flush-to-grade vault at well MW-27 and to convert well LAW-PZ-8R from a stick-up to flush-to-grade construction. All well abandonments and modifications are illustrated in Figure 2-1.

SECTION

3

# 3. WELL UPGRADES

In continuing to meet the objectives set forth in the EPD's November 20, 2012 VIRP comments letter, VOPAK conducted various field tasks. These include attempts to locate the remaining un-located monitoring wells utilized for monitoring the COC within and surrounding Tank farm # 2, the abandonment of appropriate located wells and known damaged/silted wells, installation of three new monitoring wells to achieve horizontal delineation of COC, and modification of two existing wells. These tasks are summarized in Figure 2-1. The following subsections describe site activities completed by EIC.

## 3.1 EPD's COMMENTS

In the EPD's November 20, 2012 comments letter, the EPD's first comment was that *"vinyl chloride continues to exceed Type I RRS in MW-27. Please note that the August 13, 2013 semi-annual progress report must demonstrate complete horizontal delineation on all impacted properties"*. The EPD's second comment stated that of the wells *"MW-14, MW-20, MW-21, and MW-28* [that] *have not been located since April 2010"*, *"please attempt to locate these wells and add them to the well gauging network. If these wells are no longer needed, then every attempt should be made to locate and properly abandon these wells. Also the silted wells MW-22R and MW-15 should be rehabilitated or properly abandoned"* (EPD, 2012). This EPD Comments letter referred to a November 12, 2009 letter it issued to VOPAK and that listed wells IW-1, IW-2, IW-5, LAW-PZ-8, MW-17, and MW-26 as being paved over or destroyed during construction activities at the site.

As documented in the first and second VIRP semi-annual progress reports, VOPAK has attempted to locate the above un-located wells utilizing historical maps, a magnetometer, and by excavation. Prior to January 2013, LAW-PZ-8 and MW-17 were located and abandoned as they were deemed to be unsuitable for groundwater monitoring due to silting or other reasons (EIC, 2012b). Additionally, as documented in the Second Semiannual Progress Report, EIC determined that injection well IW-4 was silted and therefore abandoned that well (EIC, 2012e).

## 3.2 LOCATING WELLS

In January 2013, EIC retained EMC Engineering Services, Inc. (EMC) a professional licensed land surveyor to utilize historically established permanent benchmarks, historical surveys conducted by the surveyor, and a magnetometer to mark the locations of certain missing wells onsite. Additionally, EIC utilized the surveyor's historical data to determine the well names and coordinates of two unidentified/unnamed wells that were not properly depicted on available AutoCAD site maps. During the survey, EIC walked the site in an attempt to visually surface evidence of these wells. In an attempt to locate wells covered over by pavement or other site improvements, the surveyors utilized a magnetometer since the well vaults are typically made of cast iron.

During the survey, EIC successfully located well MW-14 that was a deep well with flush-to-grade (FTG) completion. The well had been hidden under a geo-synthetic liner within Tank Farm #2. Upon further evaluation, EIC determined that the well was in good condition and gauged the depth of this well. EIC determined that the depth-to-bottom of the well was 49.57 feet below top-of-casing that was close to the historical well construction data which listed the well as having a total depth of 49.44 feet below grade. Wells IW-7 and IW-8, which had previously been un-located, were identified as existing wells which had been incorrectly plotted on the historical basemap. Also, well IW-21 that was previously unidentified on historical site maps was also located. Based on previous survey coordinates and magnetometer readings, the surveyor also marked the locations of wells IW-1, IW-2, IW-5, and MW-26. However, wells IW-13, MW-20, MW-21, and MW-28 could not be located by the surveyor. EIC utilized the survey data (see Section 3.3.7) to update the site basemap utilized in all site figures.

## 3.3 WELL LOCATION, ABANDONMENT, AND RELATED TASKS

During two mobilizations in December 2013, EIC completed several tasks pertaining to the monitoring well network. The following sections describe the field tasks.

### 3.3.1 Utility Clearance

Prior to EIC's first mobilization to abandon wells and to install new wells, EIC contacted the Utilities Protection Center (UPC) via the "One Call Center" phone number. UPC contacted several public utility companies to mark the locations of any buried public utilities in the areas where installation of the three new wells were proposed. Utilities included power lines, gas lines, communication lines, and water lines. EIC coordinated with GPA and GAF on the completion of this task and provided them with a map of the proposed new well locations. GPA cleared the utilities on their property at the areas of the proposed wells MW-35 and MW-36 utilizing facility as-built drawings, as no public buried utilities were known to exist in the vicinity of these proposed wells. GAF facilitated the UPC locator on their property to clear the utilities in the area of the proposed well MW-37 and independently searched their records for buried utilities.

According to the UPC, the utilities at GAF were cleared prior to EIC's site visit to install MW-37. Regarding the wells on VOPAK property to be abandoned, EIC providing a map to VOPAK illustrating the proposed well abandonment locations for clearing facility utilities and product lines.

Prior to EIC's second mobilization, EIC again contacted the UPC to clear the utilities in the area of wells IW-1 and IW-2 to be abandoned, as VOPAK had informed EIC that there were possible natural gas and water utilities in the vicinity of the proposed well locations. During this mobilization, two utility locators visited the field and determined that no public buried utilities were in the area of either of these wells. These utilities, however, had no information on any private utilities on VOPAK property. VOPAK informed EIC that it would review its records on the locations of any buried utilities and product pipelines in the area of these wells.

### 3.3.2 Site Access

During both of EIC's mobilizations, EIC did not encounter any limitations in accessing the areas for the proposed well-related tasks. EIC coordinated with VOPAK, GPA, and GAF regarding all site activities for access, as needed.

### 3.3.3 Well Locating Via Excavations

Utilizing the paint marks placed on the pavement by the surveyor that identified potential locations of wells IW-1, IW-2, IW-5, and MW-26R, EIC directed the contracted drilling company to use a masonry saw to remove asphalt pavement at each marked location. The driller also conducted an excavation within the underlying soil beneath the pavement in order to locate these wells. Additionally, EIC directed the drilling company to attempt to locate well IW-13 in Tank Farm # 2 utilizing a skid-steer excavator. The aggregate was removed to the depth of an existing geo-synthetic liner and then the aggregate was returned. During this process, care was taken to prevent damage to the geo-synthetic liner. EIC located wells IW-1 and IW-2 via this method. Wells IW-1 and IW-2 were found just under the asphalt pavement and were apparently in a reasonably good condition except that the cast-iron vaults were corroded and the masonry saw damaged the vault lid of well IW-2. The excavations within the paved areas where wells were not located (wells IW-5 and MW-26) were then was backfilled with the earth removed and tamped and the top 6 inches capped with 6-inch thick concrete FTG.

### 3.3.4 Well Abandonment

During EIC's first site mobilization, EIC abandoned wells MW-15 and MW-22R. These wells were abandoned per the Design and Installation of Monitoring wells (SESDGUID-101-R1), in the EPA's Region IV Field Branches Quality System and Technical Procedures document and in accordance with the Water Well Standards Act, O.C.G.A. 12-5-120. The concrete pads surrounding these wells were first removed and disposed of. Then, utilizing a truck-mounted drill rig with 4.25-inch I.D. decontaminated Hollow Stem Augers (H.S.A), well casings were extracted

and the boreholes were over-reamed – removing any remaining well casing. The boreholes were filled with bentonite grout with a tremie pipe. A concrete pad with a thickness of 6 inches was then installed FTG over the grouted hole. Soil cuttings and removed concrete pads were containerized in 55-gallon drums labelled as investigation derived wastes (IDW) for later disposal by VOPAK.

During this mobilization, EIC also initiated the abandonment of well IW-2. This process involved removal of the concrete pad and extraction of 10 feet of solid 1-inch PVC casing (the well screen detached from the solid casing and could not be recovered). The driller then began over-reaming the borehole to remove grout and the remaining well screen with H.S.A. However, at a depth of approximately 3 feet below grade, the auger intercepted an unpressurized 4-inch diameter rhodimet product line causing a rupture. A small volume of rhodimet leaked from the line. Per VOPAK's direction, EIC suspended abandoning this well until VOPAK had cleaned up the rhodimet spill and affected soil. VOPAK then proceeded to clean up the spill and containerize soil removed from around the borehole. VOPAK informed EIC that the abandonment of IW-2 could possibly be completed once the rhodimet line had been fully decommissioned and facility utilities records further reviewed. Due to the possibility of a water main and natural gas line at IW-1, VOPAK directed EIC to terminate abandonment process of that well. As such, EIC left IW-1 in place and capped the saw-cut over IW-1 with concrete FTG. During the initial abandonment of IW-1, only the vault lid was removed.

### 3.3.5 New Well Installations

EIC designed and supervised the installation of three new offsite (approximately 15-foot depth) monitoring wells using the drilling contractor. As discussed in Section 2, these wells were required for complete delineation of the horizontal extent of the CVOC plume.

During the second mobilization, the boreholes for the wells were drilled utilizing a 6620DT GeoProbe with 4.25-inch I.D. decontaminated H.S.A. As per the EPD's comments letter, the first well (named MW-35) was located to the north and down-gradient of MW-27 on Georgia Ports Authority (GPA) property. Additionally, since EIC had determined that certain CVOC contaminant plumes had not been fully delineated north and down-gradient of MW-32 nor south and up-gradient of wells MW-26R and MW-34, two additional wells (named MW-36 and MW-37, respectively) were installed. MW-36 was located to the north of MW-32 on GPA property and MW-37 was located near the un-located MW-28 (on GAF property) to the south of the original CVOC foot-print. Each well was completed in accordance with SESDGUID-101-R1 and O.C.G.A. 12-5-120.

During soil borings for each well, EIC recorded the continuous lithology of soils encountered and the well construction specifications. Figures 3-1 through 3-3 illustrate the as-built well completion logs of wells MW-35, MW-36, and MW-37, respectively, with both lithological and well construction details. EIC also supervised well development of each well to remove fines from the filter-pack, auger and other equipment decontamination procedures, and waste disposal. Soil

cuttings and development water generated was containerized in labeled 55-gallon drums for later disposal by VOPAK. All field activities were recorded in detail on field forms and in a field book.

### 3.3.6 Converting Two Stick-Up Wells to Flush-to-Grade

During the first mobilization, EIC directed the drilling contractor to convert well MW-27 (the well was 4-inches high with no outer protective metal casing) to FTG per SESDGUID-101-R1 and O.C.G.A. 12-5-120. This conversion provides better protection for the well. As such, the drilling contractor cut the 1-inch diameter PVC casing to a level below the ground surface and installed a cast iron well vault with screw-down lid around the PVC casing. A concrete pad was then installed around the vault.

During the second mobilization, per VOPAK's request, EIC converted well LAW-PZ-8R to FTG. This well was originally completed with approximately a 4-foot high stick-up within a protective outer metal casing. As such, EIC utilized the well driller to convert the well to FTG using procedures similar to those used for the MW-27 well conversion. This conversion allows VOPAK to more conveniently load rhodimet product into tanker trucks. The resulting soil and concrete debris were containerized in a labeled 55-gallon drum for later disposal by VOPAK.

### 3.3.7 Survey of New Well Installations and Modified Wells

In January 2014, EIC acquired a land surveyor to survey the three newly installed wells and the two modified wells at the VOPAK Savannah terminal. The geographical survey was conducted, under EIC's supervision, by a professional land surveyor licensed in the State of Georgia.

The primary objectives of the survey were to measure the horizontal and vertical coordinates of the top of casing (TOC) of monitoring wells MW-35 and MW-36 on GPA property and monitoring well MW-37 on GAF property. The surveyor also measured the vertical coordinates of the ground surface adjacent to the three aforementioned wells and the vertical coordinates of the TOC of the two modified wells, LAW-PZ-8R and MW-27 on VOPAK property. Additionally, the surveyor also measured the vertical coordinates of the adjacent ground surface.

#### 3.3.7.1 Field Activities

On January 20, 2014, EIC retained EMC Engineering Services, Inc. (EMC) to conduct the required surveying service. All survey points were referenced to horizontal state plane coordinates of North American Datum (NAD) 83 and vertical elevation coordinates of the National Geodetic Vertical Datum (NGVD) 29 and the North American Vertical Datum (NAVD) 88.

When the surveyor field crew arrived at the site, EIC identified the two wells on VOPAK property that had been converted to flush-to-grade. The surveyors collected the vertical coordinates of the TOCs of these two wells and marked a reference point with a black permanent marker on the TOC. The surveyors then measured the vertical coordinates of the ground surface

adjacent to the two wells. EIC ensured that the surveyors marked the "ground surface" at a point around the pad perimeter approximately midway between the highest and lowest ground surface elevation. The coordinates of LAW-PZ-8R and MW-27 were both successfully collected.

The surveyor then proceeded to collect the horizontal and vertical coordinates of the TOCs of wells MW-35, MW-36, and MW-37 and the ground surface elevation adjacent to each of these wells. A reference point was marked on each TOC of each well to enable well gauging from a consistent location. The coordinates of MW-35 were collected using a GPS system and the established benchmark was referenced for wells MW-36 and MW-37.

After completion of the aforementioned tasks, the surveyor assisted in locating monitoring well MW-31. MW-31 had been buried under stockpiled aggregate related to nearby construction and its exact location was unknown. Utilizing a magnetometer and direction from EIC, EMC quickly pinpointed the exact location of MW-31. EIC then uncovered this well.

#### 3.3.7.2 Basemap Revisions

EMC utilized the newly acquired field data, a historical AutoCAD map prepared by EMC of a previous survey of September 24, 2004, and a current site AutoCAD base map provided to EIC in 2011 to update the current map and depict the locations and coordinates of the surveyed wells. EMC then provided EIC a draft drawing that included horizontal and vertical coordinates in both NGVD 29 and NAVD 88 datums to assist in the update process. After EIC's review and comments, EMC's licensed surveyor signed and stamped hardcopies of the final drawing and data table and mailed them to EIC (Attachment A).

SECTION

4

# 4. QUARTERLY MONITORING

The two quarterly sampling events documented in this section were conducted in fourth quarter of 2013 and first quarter of 2014. The sampling events entailed the collection of groundwater samples for analysis from wells within the previously established area of concern with constituents of concern (COC) including dissolved chlorinated volatile organic compounds (CVOCs) and volatile organic compounds (VOCs) contamination. Under the approved VIRP, all available monitoring wells plus a selected former injection well within and adjacent to the PCE/BTEX contaminant plume are being utilized for the monitored natural attenuation (MNA) remedial approach. The following subsections describe the first quarterly monitoring program for 2014.

## 4.1 GROUNDWATER MONITORING FIELD PROGRAM

During the 2013 fourth quarterly monitoring event that occurred in October 2013, EIC conducted groundwater monitoring at 17 shallow monitoring wells, one shallow injection well, and one deep monitoring well. Prior to sampling, the deep monitoring well (MW-14) was redeveloped as it had not been purged/sampled since September 2009. During the 2013 fourth quarterly groundwater monitoring event, the following wells were utilized for groundwater sampling: LAW-PZ-8R, PAN-MW-9, PAN-MW-10, MW-16, MW-17R, IW-18, MW-14, MW-18R, MW-19, MW-23, MW-24R, MW-25, MW-26R, MW-27, MW-29, MW-30, MW-32, MW-33, and MW-34. During 2014 first quarterly groundwater monitoring event, in addition to these wells, newly available wells MW-35, MW-36, and MW-37 were also utilized for groundwater sampling as well as MW-31, which was inaccessible during the 2013 fourth quarterly event. The site layout is illustrated in Figure 4-1.

### 4.1.1 Sampling Protocol

The groundwater sampling program was conducted in accordance with the current U.S. EPA groundwater sampling procedure "Field Branches Quality System and Technical Procedures" (FBQSTP) per EPD regulations. Each monitoring well was gauged, purged, and sampled following the "low-flow" purge technique established in the standard operating procedure (SOP) SESDPROC-301-R3 under the FBQSTP (EPA, 2013).

### 4.1.2 Site Access

Prior to EIC's site visit, EIC coordinated with the GPA and GAF in gaining access during the two sampling events to collect groundwater samples from a total of six off-site monitoring wells MW-17R, MW-32, MW-34 MW-35, MW-36, and MW-37. Monitoring well MW-37 is located on GAF property and wells MW-17R, MW-32, MW-34, MW-35, and MW-36 are located on GPA property.

### 4.1.3 Field Procedures

#### 4.1.3.1 Groundwater Gauging

Prior to sampling, EIC gauged each well with a Solinst Model 122 interface meter ("oil/water interface probe") to determine the static depth to groundwater. EIC utilized top-of-casing (TOC) elevations from the most recent well surveys to determine the current groundwater elevations. The gauging data for the October 2013 and January 2014 monitoring events are tabulated in Tables 4-1 and 4-2, respectively.

#### 4.1.3.2 Groundwater Sampling

Prior to initiating field sampling activities, EIC obtained 55-gallon drums from VOPAK to containerize purged groundwater. At each wellhead, EIC monitored VOCs air concentrations in parts per million (ppm) with a calibrated photoionization detector. A total of three measurements were taken at the respective well to document VOC concentrations in the ambient air within two feet of and outside the outer well casing, air between the inner well casing and the outer protective casing or vault, and air within the inner well casing. The VOC concentrations observed during the fourth quarter of 2013 were recorded on EIC's October 2013 "Well Purging and Sampling Data field logs" (Attachment B). Due to a malfunction of EIC's photoionization detector during the first quarter of 2014, it was not possible to collect VOC air concentration data for each well. However, any noticeable odors detected were noted on the January 2014 Well Purging and Sampling Data field logs (Attachment C).

EIC utilized a peristaltic pump for purging and sampling. Dedicated disposable 1/4-inch inner diameter and 3/8-inch outer diameter Teflon-lined tubing was utilized at all wells for purging. The well purging data for October 2013 and January 2014 is tabulated in Table 4-3 and Table 4-4, respectively. Groundwater from each monitoring well was pumped via the peristaltic pump through a multi-parameter field water quality meter equipped with a flow-through cell. Following the SOP, SESDPROC-301-R3, EIC set the tubing intake at the center of the wetted screen interval. The tubing was incrementally lowered below this depth if the water level dropped to the depth of the intake during pumping.

After purging began and prior to sampling at each well, water quality parameters, including temperature, pH, oxidation-reduction potential (ORP), specific conductivity, turbidity, dissolved oxygen (DO); rate of evacuation; and depth to water were measured at approximately 5-minute

intervals until certain parameters stabilized per SESDPROC-301-R3. EIC considered that parameters were stabilized when 3 consecutive readings were within ± 0.1 for pH and ± 5% for specific conductivity. Reasonable attempts were made for each well to reach 0.2 mg/L DO and a turbidity reading below 10 Nephelometric Turbidity Units (NTUs). These measurements were recorded on EIC's Well Purging and Sampling Data field logs. Groundwater quality field parameters after stabilization and prior to sample collection are summarized in Table 4-5 and Table 4-6 for October 2013 and January 2014, respectively. The historical natural attenuation parameters recorded during each monitoring event including pH, Temperature, DO, conductivity, and ORP are tabulated in Table 4-7.

After water quality parameters had either stabilized or reasonable attempts had been made to reach stabilization at each accessible well, EIC collected groundwater samples utilizing the "soda straw method", per SESDPROC-301-R3, whereby the Teflon-lined tubing was removed from the well, the peristaltic pump run in reverse, and sample bottles filled from the tubing. To ensure that no groundwater from or beyond the peristaltic pump head reached the sample bottles during sample collection, EIC utilized a minimum of 20 feet of tubing from the pump head. All sample bottles were properly sealed and labeled in the field. Each sample set was then stored with ice in insulated cooler containers provided by the laboratory. Completed chain of custody forms accompanied all samples.

EIC scheduled Xenco Laboratories, a Georgia-certified laboratory located in Norcross, Georgia, to pick up both sets of samples the day after returning to EIC headquarters from the site. The laboratory conducted analysis of volatile organic compounds via EPA method 8260B. The laboratory reports for the October 2013 and January 2014 events are included as Attachment D and Attachment E, respectively.

The 55-gallon drums used for containerization of purge water were placed on the west shoulder of the road between Tank Farm #2 and Tank Farm #3. EIC placed a non-hazardous waste label on each drum and marked the contents as investigative derived waste ("IDW") well purge water and marked the respective accumulation dates. The drums were later disposed of by VOPAK.

#### 4.1.3.3 Deep Monitoring Well MW-14 Redevelopment

Since monitoring well MW-14 was considered a deep well, EIC utilized that well to vertically delineate the CVOC and VOC plumes. Based on actual measurement conducted in January 2013, EIC determined that the total depth of MW-14 was 49.57 feet below top-of-casing. This measurement was consistent with historical well construction data that listed the well as having a total depth of 49.44 feet below grade. The screened interval was reportedly located from 39.44 to 49.44 feet below grade.

Since historical records indicated that MW-14 had not been sampled since September 2009, EIC chose to develop the well prior to sampling. On October 1, 2013, EIC developed MW-14 utilizing a decontaminated submersible pump. Purging was accomplished by pumping the well

water while repeatedly raising and lowering the pump through the entire water column ("surged"). This procedure was performed in an attempt to clean the well screen of stagnant water, accumulated silt, bacteria, minerals, and other deposits. Initially the purge water appeared cloudy with black particulate matter but gradually became clear through the surging process. Approximately 23.5 gallons (3 well volumes) of water were purged from MW-14 during the development procedure.

All purge water was pumped into 5 gallon buckets and then transferred into the 55-gallon drum provided by VOPAK. In accordance with Design and Installation of Monitoring wells (SESDGUID-101-R1) procedure discussed in EPA's Region IV document titled Field Branches Quality System and Technical Procedures, EIC allowed the well to stabilize for a minimum of 24 hours before sampling the well. EIC sampled MW-14 two days later on October 3 as documented on the data field form (Attachment B).

## 4.2 QUALITY ASSURANCE AND QUALITY CONTROL

For groundwater quality assurance and quality control purposes, EIC placed one lab-supplied trip blank set with in each cooler that was used for storage of sample containers with ice. The trip blanks were submitted to the laboratory for analysis via EPA Method 8260B

To prevent cross-contamination, disposable 1/4-inch inner diameter and 3/8-inch outer diameter Teflon-lined tubing was used to collect samples at each well. The dedicated tubing was discarded after each respective well was sampled. EIC's oil/water interface meter, 2000 mL cylinder, and tubing cutter were field decontaminated prior to use and between sample locations by washing with a phosphate-free detergent solution and rinsing with pressurized de-ionized (DI) water. After each sample was collected, the water quality parameters instrument was also decontaminated with DI water.

## 4.3 DATA EVALUATION

EIC conducted an evaluation of the data compiled from field measurements and laboratory analyses to determine the groundwater potentiometric surface and the horizontal and vertical extent of the prevailing contaminant plumes at the time of the October 2013 and January 2014 monitoring events. Data from the sampling events were compared with the data from the baseline and each of the seven subsequent quarterly sampling events to determine if monitored natural attenuation is in process at the site and is likely to lead to remedial end points.

### 4.3.1 Groundwater Potentiometric Map

From the gauging data in Tables 4-1 and 4-2, EIC prepared a groundwater potentiometric surface map for each of the October 2013 and January 2014 quarterly monitoring events, respectively. The groundwater potentiometric surface occurring during the 2013 fourth quarterly and 2014 first quarterly monitoring events are illustrated in Figures 4-2 and 4-3, respectively. EIC compared

these two potentiometric surface maps with the previous eight potentiometric surface maps prepared since the inception of the VIRP in 2011. All ten maps illustrate that the predominant direction of groundwater flow in the area (including the COC foot-print) is due north or north-northeast.

The addition of January 2014 groundwater elevation data from the newly installed monitoring wells MW-35, MW-36, and MW-37 did not result in a significant change in the overall groundwater potentiometric surface or the direction of flow observed over the past nine events. Moreover, this data was consistent with previous data and allowed a depiction of the surface over a wider area to the south and north.

A trough feature of the potentiometric surface lies in the vicinity of Tank Farm # 2 that is oriented parallel to the groundwater flow. Also, a ridge feature of the potentiometric surface along the east of and parallel to the trough feature was once again observed during the October 2013 and January 2014 events. Referring to Figure 4-2, the up-gradient portion of the ridge feature observed during the previous five monitoring events appears to be better defined to the south and aligned further east than in previous events. The addition of groundwater elevation data from new monitoring wells MW-35 and MW-36 also supports the presence of a trough depicted in previous monitoring events. As illustrated in Figure 4-3, it appears that the trough extends northward from the vicinity of former injection well IW-18 to Tank 35 where it then turns towards the northeast and MW-36.

The elevation of the groundwater potentiometric surface did not change significantly between the fourth quarter of 2013 and the first quarter of 2014, however, in general, the groundwater elevation was slightly higher in January 2014. The groundwater elevation in monitoring well MW-27, located in the northeast area of the potentiometric surface depicted, increased by only 0.03 feet from October 2013 to January 2014. The largest increase in elevation in the southern portion of the potentiometric surface was observed at monitoring well MW-26R, where it increased 0.54 feet between the two events.

### 4.3.2 Horizontal Extent of Contaminant Plumes

The analytical data from the October 2013, January 2014, as well as historical analytical data are tabulated in Table 4-8. The COC results for each well sampled during the 2013 fourth quarterly and 2014 first quarterly monitoring events are illustrated in Figures 4-4 and 4-5, respectively. All parameters that exceeded the revised Site Specific Type 4 risk reduction standards (RRS) are shown in red. The following subsections include discussions on the characteristics of each constituent plume relative to historical plume characteristics.

#### 4.3.2.1 CVOC Plume

The CVOCs of concern at the site are tetrachloroethene or perchloroethene (PCE), trichloroethene (TCE), cis-1, 2 dichloroethene (DCE), and vinyl chloride (VC). Figures 4-6

through 4-13 illustrate the horizontal extent of the four CVOC constituent plumes observed in October 2013 and January 2014. In preparing the plume maps, EIC utilized the same contour intervals as those illustrated in the CAP for relative comparison. In addition, the limits of the RRS concentrations and the delineation criterion are illustrated to evaluate the extent of dissolved CVOCs that require remediation and the horizontal extent of the overall plume.

PCE and all three daughter products were detected at MW-37 when this well was first sampled in January 2014. From the 2014 second quarterly monitoring event, EIC will reconfirm the presence and concentration of CVOCs.

**PCE Plume:**

Referring to Figure 4-6, by the October 2013 monitoring event, the PCE concentrations at MW-33 had decreased from 15 µg/L in July 2013 to 1.2 µg/L. This decrease resulted in the PCE plume bisecting to form two separate PCE plumes of similar horizontal extent. The PCE concentration at MW-33 continued to decrease to below detection limits by the January 2014 event, as shown in Figure 4-7.

The highest concentration of PCE within the first PCE plume located in the southern portion of the original CVOC foot-print has remained relatively consistent at LAW-PZ-8R. This concentration has decreased only slightly from 44 µg/L, during the October 2013 monitoring event, to 38 µg/L during the January 2014 monitoring event. However, the horizontal extent of the up-gradient plume is depicted has having increased up-gradient due to additional data indicating PCE at a concentration of 30 µg/L at monitoring well MW-37. This PCE concentration at MW-37 remains unverified pending the next quarterly sampling event.

The highest concentration of PCE in the farthest down-gradient plume occurs at MW-32 as it has during each of the previous sampling events beginning in July 2012. This concentration has increased from 2,200 µg/L, during the July 2013 monitoring event, to 6,200 µg/L and 6,500 µg/L during the October 2013 and January 2014 events, respectively. The down-gradient plume shape indicates that the PCE plume is essentially aligned along the same direction as groundwater flow.

In summary, the overall horizontal extent of the prevailing PCE plume is shrinking in comparison to that of previous monitoring events. However, the current peak PCE concentration at MW-32 has increased significantly in comparison to the July 2013 peak PCE concentration.

In comparing the October 2013 and January 2014 sampling events to the eight previous sampling events (Figures 4-8 through 4-13), EIC observed spatial and temporal variations of the following PCE degradation products.

**TCE Plume:**

Referring to Figure 4-8, the location of the highest concentration of the TCE plume increased from 790 µg/L at well PAN-MW-9 in July 2013 to 1,300 µg/L at well MW-32 in October 2013. This concentration at MW-32 remained at 1,300 µg/L by January 2014, as shown in Figure 4-9. At the time of the January 2014 monitoring event, in addition to that at MW-32, TCE concentrations occurred above the RRS Type 4 standard of 38 µg/L at MW-29 (110 µg/L) and PAN-MW-9 (300 µg/L). In comparison to the July 2013 monitoring event, the TCE concentration at MW-29 has decreased slightly from 69 µg/L to 66 µg/L and the concentration at PAN-MW-9 has decreased by almost half from 790 µg/L to 440 µg/L.

With the addition of well MW-37 to the well monitoring network, the horizontal extent of the TCE plume has been further defined extending hydraulically up-gradient of the original CVOC foot-print. The western edge of the 5 µg/L delineation criterion limit of the TCE plume has shifted approximately 50 feet to the east due to the TCE concentration at well LAW-PZ-8R having decreased to below detection limits by the January 2014 event.

**DCE Plume:**

Referring to Figures 4-10 and 4-11, the highest concentrations of the DCE plume were 8,500 µg/L and 7,200 µg/L (both occurring at well LAW-PZ-8R) during the October 2013 and January 2014 monitoring events, respectively. This is a significant decrease from a concentration of 11,000 µg/L observed at LAW-PZ-8R during the July 2013 monitoring event. The DCE concentration increased most significantly at well MW-29. Between the July 2013 and October 2013 event, the DCE concentration increased at well MW-29 from 2,800 µg/L to 6,100 µg/L. The concentration then slightly decreased at this well to 5,900 µg/L by the January 2014 event.

As with the PCE and TCE plumes, the addition of data from well MW-37 has altered the shape of the DCE plume, extending it further up-gradient than previously depicted. The peak concentration of DCE in the plume (in the vicinity of LAW-PZ-8R and IW-18) to the south of the original CVOC foot-print slightly decreased between the October 2013 and January 2014 events and the north down-gradient peaks of the plume (in the vicinity of MW-29 and PAN-MW-9) slightly increased between the same two events. This shift in concentrations of DCE indicates that PCE natural attenuation is in progress and that the source is diminishing.

In summary, both the highest concentration and the overall horizontal extent of the DCE plume (except to the southeast of LAW-PZ-8R) has significantly decreased in comparison to the October 2011 baseline monitoring event, indicating that the plume is shrinking.

**VC Plume:**

Referring to Figures 4-12 and 4-13, the highest concentration of VC has shifted from LAW-PZ-8R (830 µg/L) in October 2013 to IW-18 (1,900 µg/L) in January 2014. However, the VC

concentration at LAW-PZ-8R did increase from 830 µg/L in October 2013 to 980 µg/L in January 2014. This is slightly lower than the 990 µg/L observed at LAW-PZ-8R in July 2013. Also, the extent of the hydraulically up-gradient portion of the plume has been further defined to the southeast of LAW-PZ-8R with VC apparently occurring at well MW-37 at a concentration of 130 µg/L. The extent of the down-gradient portion of the plume has increased with higher concentrations occurring at wells MW-16, MW-27, MW-29, MW-32, and PAN-MW-9 during the January 2014 event than occurred during the October 2013 event. However, between the October 2013 and January 2014 events, the VC concentrations at wells MW-24R, MW-30, and MW-33 decreased, causing the middle portion of the plume to recede inward. Comparing the January 2014 down-gradient plume to the July 2013 down-gradient plume, it appears that VC plume is extending east because concentrations have decreased in MW-27 and MW-24R and increased in PAN-MW-9 and MW-32.

In summary, both the highest concentration and the overall horizontal extent of the VC plume has increased in comparison to more recent monitoring events. This is a further indication that natural attenuation is occurring.

#### 4.3.2.2 VOC Plume

The VOCs of concern at the site are benzene, toluene, ethylbenzene, and total xylenes (BTEX). Figures 4-14 through 4-21 illustrate the horizontal extent of the VOC plumes at the site during October 2013 and January 2014. In preparing these plume maps, EIC utilized the same contour intervals as those illustrated in the CVOC maps. This allows for a relative comparison of the plume maps between VOC and CVOC limits. Also, the limits of the RRS concentrations and the delineation criterion are illustrated to evaluate the extent of dissolved VOCs that may require remediation. In reviewing these figures, EIC made the following observations:

**Benzene Plume:**

Referring to Figures 4-14 and 4-15, which depict the horizontal extent of the benzene plume during the October 2013 and January 2014 monitoring events, respectively, since July 2013 the plume has remained split into two separate plumes. The peak concentration of the primary benzene plume that lies hydraulically up-gradient in the vicinity of LAW-PZ-8R, has decreased from 1,900 µg/L in July 2013 to 1,500 µg/L during the July 2013 monitoring event and again decreased to 1,200 µg/L during the January 2014 monitoring event. The January 2014 peak concentration is the lowest peak benzene concentration recorded since VIRP monitoring began in October 2011. The down-gradient plume, located in the vicinity of wells MW-24R and MW-29, had a peak concentration of 23 µg/L at MW-29 in January 2014. This is the highest concentration recorded in the down-gradient plume since VIRP monitoring activities began in October 2011.

As with the CVOC plumes, the addition of benzene concentration from new well MW-37 has redefined the extent of the up-gradient benzene plume to expand towards the southeast.

However, this extent will be verified in the next sampling event. In summary, the overall horizontal extent of the benzene plumes have significantly decreased in comparison to the October 2011 baseline monitoring event, indicating that the plumes are shrinking.

**Toluene Plume:**

Referring to Figures 4-16 and 4-17, which depict the horizontal extent of the toluene plume during the October 2013 and January 2014 monitoring events, respectively, since July 2013 the horizontal extent of the toluene plume has decreased slightly. Also, the peak concentration at LAW-PZ-8R decreased from 650 µg/L in July 2013 to 510 µg/L by the October 2013 monitoring event and decreased again to 350 µg/L by January 2014. Both the October 2013 and January 2014 concentrations were the lowest concentrations recorded since VIRP monitoring began in October 2011.

In summary, both the highest concentration and the overall horizontal extent of the toluene plume has significantly decreased in comparison to the October 2011 baseline monitoring event indicating that the plume is shrinking. Additionally, the toluene plume continues to remain below both the RRS and delineation criterion, as it has since July 2012, indicating complete attenuation.

**Ethylbenzene Plume:**

Figures 4-18 and 4-19 depict the ethylbenzene plume separated into two plumes centered on wells LAW-PZ-8R and between wells PAN-MW-9 and MW-29 during October 2013 and January 2014, respectively. Historically, the highest concentration has been at LAW-PZ-8R. However, as of January 2014 the concentration at this well had decreased from 7,600 µg/L in July 2013 to 4000 µg/L. Simultaneously, the concentration at MW-29 increased from 800 µg/L in July 2013 to 1,200 µg/L in October 2013 and again to 3,100 µg/L in January 2014. The 3,100 µg/L concentration is the highest concentration ever recorded at MW-29 since October 2011. The concentration at PAN-MW-9 also increased from 760 µg/L in July 2013 to 1,000 µg/L by January 2014.

In summary, the extent and concentration of the up-gradient plume appears to be decreasing while the extent and concentration of the down-gradient plume is increasing significantly.

**Total Xylenes Plume:**

Figures 4-20 and 4-21 depict the total xylenes plume during October 2013 and January 2014, respectively. As it has since July 2012, the total xylenes plume continues to consist of two separate plumes with the predominant up-gradient plume centered at well LAW-PZ-8R and the down-gradient plume centered between wells PAN-MW-9 and MW-29, similar to the ethylbenzene plume.

The primary peak concentration at LAW-PZ-8R remained constant at 110,000 µg/L from the April 2013 monitoring event until the October 2013 event. By January 2014, the concentration

dropped significantly to 88,000 µg/L, reversing an upward trend observed since October 2012 and the lowest concentration since January 2012. However, the peak concentration of the down-gradient plume has increased by 4,900 µg/L at MW-29 since July 2013 reaching 6,600 µg/L in January 2014. The concentration at PAN-MW-9 increased slightly by 400 µg/L between July and October 2013 and then increased again by another 100 µg/L in January 2014, reaching a concentration of 2,700 µg/L.

In summary, it appears that the extent of the two plumes of the total xylenes plume have remained relatively stable with a slight decrease of the up-gradient plume and a slight increase of the down-gradient plume. It is pertinent that the total xylene concentration is above the RRS level only at well LAW-PZ-8.

### 4.3.3 Vertical Extent of COC Plumes

As discussed in Section 4.1.3.3, monitoring well MW-14 was redeveloped during the October 2013 monitoring event. MW-14 is the only known remaining deep well within the COC footprint, as monitoring well MW-15 has now been abandoned, as discussed in Section 3. After MW-14 was redeveloped it was sampled in October 2013, for the first time since September 2009 and then again in January 2014. As shown in Table 4-8, all monitored COC were below detection limits during both events at well MW-14 with the exception of toluene at 3.5 µg/L in October 2013 – however this was well below RRS. MW-14 will continue to be included in the monitoring program but it appears that vertical delineation of the plume has been completed.

### 4.3.4 Plume Stability

#### 4.3.4.1 CVOC Plume

As discussed in Section 4.3.2.1, since VIRP monitoring was initiated in October 2011, the total CVOC plumes have either split into two separate up-gradient and down-gradient plumes or, have narrowed at the center indicating that the plumes are in the process of splitting into two plumes. Overall, the CVOC plumes appear to be stationary and reducing in concentration and size, as indicated by surrounding wells with concentrations below detection limits and/or below the RRS indicating that all of the CVOC plumes are shrinking. An isolated VC plume, however, remains persistent in the area of MW-16.

Additional January 2014 analytical data from the newly installed wells MW-35 and MW-36 located down-gradient of the CVOC plumes confirmed that all CVOCs were below detection limits at these wells, thereby completing the horizontal delineation of each CVOC plume down-gradient of the original CVOC foot-print. It is pertinent to note that, accordingly, the VC plume has now been fully delineated down-gradient of MW-27.

The January 2014 analytical data from the newly installed well MW-37 located up-gradient of the CVOC plumes, however, indicates that the four CVOC plumes potentially extends up-gradient of

the original CVOC foot-print- from LAW-PZ-8R and onto GAF property. However, as discussed in Section 5.2.1, these results will be reconfirmed after the next sampling event.

#### 4.3.4.2 VOC Plume

In summary, the prevailing VOC plumes appear to be naturally attenuating compared to baseline conditions established in October 2011 and trending towards the established RRS. It is pertinent to note that additional January 2014 analytical data from the newly installed wells MW-35 and MW-36 located down-gradient of the VOC plumes confirmed that all VOCs were below detection limits at these wells, thereby completing the horizontal delineation of each VOC plume down-gradient of the original VOC foot-print.

Additional analytical data from the newly installed well MW-37 located up-gradient of the VOC plumes has delineated toluene and ethylbenzene up-gradient, as the concentrations of these constituents were below detection limits at MW-37. Analytical results from the MW-37 sample also possibly indicate that the benzene and total xylenes plumes actually extend further up-gradient and towards the southeast from LAW-PZ-8R and onto GAF property. However, delineation of the up-gradient extent of benzene and total xylenes cannot be confirmed until analysis of another sample from MW-37 has been completed.

## 4.4 DETAILED TREND ANALYSIS

In a separate study, EIC will perform a detailed evaluation of the plume stability, mobility, and attenuation rates. In concurrence with EPD, VOPAK will utilize a suitable model to further examine the contaminant flux, rates of degradation, long-range plume stability/reduction, attenuation relative to mass loading, and related processes to reach remedial end points.

SECTION

5

# 5. INDICATOR PARAMETERS

The VIRP proposed monitored natural attenuation (MNA) as a remedy to address the prevailing CVOCs. The plan also outlined certain performance metrics to evaluate the effectiveness of the selected remedy. Spatial and temporal analysis of the COC trends discussed in Section 4 serves as one line of evidence that MNA is effective. EPD, however, requires multiple lines of evidence to demonstrate that the MNA-based remedy is not only effective but sustainable.

Another line of evidence that demonstrates the effectiveness of the MNA program would be a verification of the presence and distribution of geochemical indicators of natural attenuation. To achieve this objective, EIC utilized a down-hole data logger to collect in situ data on various indicator parameters. EIC has successfully completed this task. Explicit discussion on the down-hole MNA indicator parameter evaluation is included in a separate report provided as Appendix A. Considering that the primary indicator parameters such as pH, specific conductivity, ORP, DO, and temperature were close to ideal conditions for reductive dechlorination, the CVOC plume is presently in a favorable environment for natural attenuation.

SECTION

6

# 6. CONCLUSIONS

EIC has addressed EPD comments noted in Section 2. During the last time frame, EIC completed the following objectives pertaining to the well network:

- Located wells IW-1 and IW-2.
- Attempted to locate to the extent possible but did not locate wells IW-5, IW-13, MW-20, MW-21, MW-26, nor MW-28.
- Properly abandoned wells MW-15 and MW-22R.
- Attempted to abandon wells IW-1 and IW-2, however, due to encountering a rhodimet product pipeline at IW-2 and due to the possibility of utilities at IW-1, EIC did not complete the abandonment of IW-2 and left IW-1 in place.
- Installed three new monitoring wells MW-35, MW-36, and MW-37.
- Converted wells MW-27 and LAW-PZ-8R from stick-up to FTG completion.

Based on a trend analysis of the historic monitoring data, the VOC and CVOC plumes appear to be relatively stable or shrinking relative to the baseline sampling event in October 2011. Furthermore, with the addition of two new down-gradient monitoring wells (MW-35 and MW-36) in December 2013, the down-gradient horizontal extent of the COC plumes (above RRS) have been delineated. This also addresses the EPD concern about the extent of VC down-gradient of MW-27. Additionally, the vertical extent of all eight monitored VOC and CVOC plumes above RRS have been delineated.

Analytical results from the groundwater sample collected from a new hydraulically up-gradient well (MW-37 installed in December 2013) has indicated that all four monitored CVOC plumes and the VOC plumes benzene and total xylenes extend further up-gradient and southeast from well LAW-PZ-8R than had previously been depicted prior to the installation of this well. However, until the analytical results of MW-37 are verified during the 2014 second quarterly monitoring event, EIC cannot substantiate this finding.

Evaluation of continuous groundwater monitoring data indicates that the geochemical parameters in the subsurface have favorable conditions for reductive dechlorination of CVOCs. Based on

the trend analysis, it also appears that the VOCs have been cometabolized during the reductive decholorination process.

SECTION 7

# 7. SUMMARY OF HOURS

A monthly summary of hours invoiced for the aforementioned tasks during the period from August 2013 through January 2014 are summarized in Attachment F.

SECTION

8

# 8. REFERENCES


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VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# FIFTH SEMIANNUAL PROGRESS REPORT

# TABLES

# Table 4-1: October 2013 Well Gauging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | TOC Elevation* (ft.) | DTP (ft.) | DTW** (ft.) | Groundwater Surface Elevation (ft.) | Notes |
|---|---|---|---|---|---|
| LAW-PZ-8R (1) | 14.02 | ND | 6.92 | 7.1 | very soft bottom when DTB measurement taken. Probe had black slippery, and gritty substance on tip after DTB, no odor detected. DTB below TOC is 15.88 |
| PAN-MW-9 (2) | 12.59 | ND | 6.66 | 5.93 | soft bottom when DTB taken, samples have orange bacteria in them. DTB below TOC is 14.77 |
| PAN-MW-10 (2) | 13.81 | ND | 10.28 | 3.53 | DTB below TOC is 15.9 |
| MW-14 (2) | 8.86 | ND | 6.17 | 2.69 | DTB below TOC is 49.57 |
| MW-16 (1) | 17.01 | ND | 11.86 | 5.15 | water in tidal flat is completely submerging the sluice gate, DTB below TOC is 14.02 |
| MW-17R (1) | 15.89 | ND | 10.68 | 5.21 | water level is 2.5-3 ft. below high water mark on bulkhead wall in tidal flat, DTB below TOC is 23.96 |
| IW-18 (1) | 10.07 | ND | 3.30 | 6.77 | DTB below TOC is 19.28 |
| MW-18R (1) | 14.12 | ND | 6.97 | 7.15 | DTB below TOC is 16.55 |
| MW-19 (1) | 14.91 | ND | 7.38 | 7.53 | DTB below TOC is 17.96 |
| MW-23 (1) | 10.39 | ND | 4.20 | 6.19 | soft bottom when DTB measurement taken, DTB below TOC is 11.68 |
| MW-24R (1) | 11.81 | ND | 6.32 | 5.49 | DTB below TOC is 18.4 |
| MW-25 (1) | 14.76 | ND | 7.35 | 7.41 | sandy/silty material on probe after depth to bottom reading, orange bacteria on tubing after removal from well, DTB below TOC is 17.91 |
| MW-26R (1) | 10.59 | ND | 3.67 | 6.92 | water is black/grey in cylinder, numerous bubbles in tubing during pumping, DTB below TOC is 14.51 |
| MW-27 (1) | 9.93 | ND | 5.35 | 4.58 | soft bottom when DTB reading taken, some tan colored bacteria in samples, DTB below TOC is 14.41 |
| MW-29 (0.75) | 11.73 | ND | 6.52 | 5.21 | DTB below TOC is 23.15 |
| MW-30 (2) | 11.23 | ND | 5.43 | 5.8 | DTB below TOC is 15.05 |
| MW-31 (2) | 9.67 | ND | NM | NA | |
| MW-32 (2) | 11.70 | ND | 6.66 | 5.04 | black bacteria in first water exiting the horiba, DTB below TOC is 16.41 |
| MW-33 (2) | 8.96 | ND | 2.85 | 6.11 | bluish/grey slime on tip of probe after DTB measurement, slippery with gritty feel to it. DTB below TOC is 14.35 |
| MW-34 (2) | 10.81 | ND | 3.95 | 6.86 | when decontaminating the horiba there were fine red particles in the bottom of the flow through cell, DTB below TOC is 16.34 |

**Notes:**

ID = Identity
TOC = Top of Casing
DTP = Depth to Product below TOC
DTW = Depth to Water below TOC
NA = Not Applicable
NM = Not Measured
ND = Not Detected
*TOC elevations are based on well surveys conducted by EMC Engineering on June 30, 2011 and January 24, 2013, and are of the NGVD 29 Datum convention. TOC elevations for MW-14, MW-26R, MW-27, MW-30, and MW-33 were updated based on corrections to January 2013 survey received 2/11/2014
** DTW measurements were recorded by EIC from 10/1/2013 to 10/03/2013 prior to purging using a Solinst Oil/Water Interface Meter (probe), Model:122.

# Table 4-2: January 2014 Well Gauging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | TOC Elevation* (ft.) | DTP (ft.) | DTW** (ft.) | Groundwater Surface Elevation (ft.) | Notes |
|---|---|---|---|---|---|
| LAW-PZ-8R (1) | 9.22 | ND | 1.59 | 7.63 | black bacteria was present on probe after DTW gauging |
| PAN-MW-9 (2) | 12.59 | ND | 6.36 | 6.23 | when casing was opened there was a strong sulfur odor, water is tan in cylinder |
| PAN-MW-10 (2) | 13.81 | ND | 10.31 | 3.50 | samples were very clear |
| MW-14 (2) | 8.86 | ND | 6.72 | 2.14 | water was very clear in tubing and in cylinder |
| MW-16 (1) | 17.01 | ND | 12.61 | 4.40 | tidal flat was completely dry, water was clear in tubing and cylinder |
| MW-17R (1) | 15.89 | ND | 10.57 | 5.32 | water was tan/gray in the cyclinder with large amounts of particulate matter |
| IW-18 (1) | 10.07 | ND | 3.34 | 6.73 | tan bacteria was present on probe after DTW gauging, air bubbles were present in tubing, water has sewer odor |
| MW-18R (1) | 14.12 | ND | 6.57 | 7.55 | |
| MW-19 (1) | 14.91 | ND | 7.05 | 7.86 | water was tan in cyclinder, water contained a large amount of tan bacteria |
| MW-23 (1) | 10.39 | ND | 4.20 | 6.19 | samples were very clear |
| MW-24R (1) | 11.81 | ND | 5.90 | 5.91 | briefly stopped pumping due to leaks in the Horiba from a misaligned o-ring, samples had a small amount of tan bacteria |
| MW-25 (1) | 14.76 | ND | 6.92 | 7.84 | orange/red bacteria was present on probe after DTW gauging, water is tan and cloudy in cylinder |
| MW-26R (1) | 10.59 | ND | 3.11 | 7.48 | probe was clean after DTW gauging and had no bacteria present |
| MW-27 (1) | 9.38 | ND | 4.77 | 4.61 | large amount of tan bacteria on first pull, redirected bacteria from first pull into purge water bucket then reconnected the pump line to the Horiba |
| MW-29 (0.75) | 11.73 | ND | 6.30 | 5.43 | orange bacteria on probe tip after taking DTW reading, large amount of small air bubbles in tubing |
| MW-30 (2) | 11.23 | ND | 5.00 | 6.23 | samples were very clear |
| MW-31 (2) | 9.67 | ND | 5.20 | 4.47 | large amount of tan bacteria on first pull from well |
| MW-32 (2) | 11.70 | ND | 6.47 | 5.23 | first pull from well is clear, no bacteria present |
| MW-33 (2) | 8.96 | ND | 2.72 | 6.24 | black bacteria was present on probe after DTW gauging |
| MW-34 (2) | 10.81 | ND | 3.40 | 7.41 | water appears clear in cyclinder |
| MW-35 (2) | 10.40 | ND | 5.63 | 4.77 | 1/4" of tan bacteria on first pull from well, water was clear after first pull |
| MW-36 (2) | 10.42 | ND | 8.53 | 1.89 | first pull from well is tan in color, no bacteria present, water is tan in cylinder |
| MW-37 (2) | 11.57 | ND | 4.15 | 7.42 | gauged from black mark on high side of TOC, red bacteria was present on probe after DTW reading |

**Notes:**

DTW = Depth to Water below TOC
NA = Not Applicable
NM = Not Measured
ND = Not Detected
*TOC elevations are based on well surveys conducted by EMC Engineering on June 30, 2011, January 24, 2013, and January 20, 2014 and are of the NGVD 29 Datum convention.
** DTW measurements were recorded by EIC from 1/19/2014 to 1/21/2014 prior to purging using a Solinst Oil/Water Interface Meter (probe), Model:122.

# Table 4-3: October 2013 Well Purging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Date of Purge | Purge Time (minutes) | Total Purge Volume (mL) | Average Purge Rate (mL/minutes) | Initial Tubing Intake Depth below TOC* (ft.) | Final Tubing Intake Depth below TOC (ft.) |
|---|---|---|---|---|---|---|
| LAW-PZ-8R (1) | 10/03/13 | 46 | 6200 | 135 | 11.5 | 11.5 |
| PAN-MW-9 (2) | 10/01/13 | 20 | 2800 | 140 | 12 | 12 |
| PAN-MW-10 (2) | 10/02/13 | 15 | 1640 | 109 | 13 | 13 |
| MW-14 (2) | 10/02/13 | 16 | 4340 | 271 | 45 | 45 |
| MW-16 (1) | 10/03/13 | 45 | 1620 | 36 | 13.5 | 13.5 |
| MW-17R (1) | 10/02/13 | 37 | 3480 | 94 | 18 | 18 |
| IW-18 (1) | 10/03/13 | 41 | 2820 | 69 | 15 | 15 |
| MW-18R (1) | 10/01/13 | 33 | 4000 | 121 | 12 | 12 |
| MW-19 (1) | 10/03/13 | 16 | 2240 | 140 | 13 | 13 |
| MW-23 (1) | 10/01/13 | 32 | 4600 | 144 | 8.5 | 8.5 |
| MW-24R (1) | 10/02/13 | 33 | 3660 | 111 | 14 | 14 |
| MW-25 (1) | 10/03/13 | 21 | 3000 | 143 | 14 | 14 |
| MW-26R (1) | 10/03/13 | 36 | 4360 | 121 | 10.5 | 10.5 |
| MW-27 (1) | 10/01/13 | 12 | 1360 | 113 | 13 | 13 |
| MW-29 (0.75) | 10/01/13 | 17 | 2740 | 161 | 19 | 19 |
| MW-30 (2) | 10/03/13 | 15 | 2280 | 152 | 10.5 | 10.5 |
| MW-31 (2) | NS | NS | NS | NS | NS | NS |
| MW-32 (2) | 10/02/13 | 16 | 2500 | 156 | 12 | 12 |
| MW-33 (2) | 10/02/13 | 25 | 3800 | 152 | 11 | 11 |
| MW-34 (2) | 10/02/13 | 20 | 2820 | 141 | 11.5 | 11.5 |

**Notes:**

Water in cylinder is clear. When decontaminating the Horiba, there were fine red particles in the bottom of the flow through cell

ID= Identity
mL= Milliliter
TOC= Well Top of Casing
NS = Well Not Sampled Because Inaccessible Due to Being Covered in Construction Material
During well purging, the Teflon-lined tubing was lowered as needed when the water level dropped to the depth of the intake, causing air to be recovered.

# Table 4-4: January 2014 Well Purging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Date of Purge | Purge Time (minutes) | Total Purge Volume (mL) | Average Purge Rate (mL/minutes) | Initial Tubing Intake Depth below TOC* (ft.) | Final Tubing Intake Depth below TOC (ft.) |
|---|---|---|---|---|---|---|
| LAW-PZ-8R (1) | 1/19/2014 | 43 | 7900 | 184 | 6.5 | 6.5 |
| PAN-MW-9 (2) | 1/19/2014 | 15 | 1600 | 107 | 13 | 13 |
| PAN-MW-10 (2) | 1/19/2014 | 20 | 2300 | 115 | 11.5 | 11.5 |
| MW-14 (2) | 1/19/2014 | 10 | 2920 | 292 | 44.5 | 44.5 |
| MW-16 (1) | 1/20/2014 | 15 | 740 | 49 | 15 | 13.5 |
| MW-17R (1) | 1/21/2014 | 27 | 2340 | 87 | 17 | 17 |
| IW-18 (1) | 1/19/2014 | 27 | 1240 | 46 | 15 | 15 |
| MW-18R (1) | 1/20/2014 | 15 | 1920 | 128 | 11 | 11 |
| MW-19 (1) | 1/20/2014 | 15 | 2050 | 137 | 13 | 13 |
| MW-23 (1) | 1/20/2014 | 15 | 2300 | 153 | 8.5 | 8.5 |
| MW-24R (1) | 1/19/2014 | 15 | 1760 | 117 | 14 | 14 |
| MW-25 (1) | 1/20/2014 | 36 | 4980 | 138 | 14 | 14 |
| MW-26R (1) | 1/20/2014 | 10 | 1400 | 140 | 10 | 10 |
| MW-27 (1) | 1/20/2014 | 15 | 1640 | 109 | 13 | 13 |
| MW-29 (0.75) | 1/19/2014 | 30 | 6200 | 207 | 19 | 19 |
| MW-30 (2) | 1/19/2014 | 11 | 2000 | 182 | 10 | 10 |
| MW-31 (2) | 1/20/2014 | 18 | 2960 | 164 | 15 | 15 |
| MW-32 (2) | 1/21/2014 | 15 | 1880 | 125 | 12 | 12 |
| MW-33 (2) | 1/19/2014 | 10 | 2000 | 200 | 10.5 | 10.5 |
| MW-34 (2) | 1/20/2014 | 16 | 2100 | 131 | 11.5 | 11.5 |
| MW-35 (2) | 1/21/2014 | 11 | 1500 | 136 | 10 | 10 |
| MW-36 (2) | 1/21/2014 | 10 | 860 | 86 | 12 | 12 |
| MW-37 (2) | 1/20/2014 | 17 | 3220 | 189 | 10.5 | 10.5 |

**Notes:**

ID= Identity

mL= Milliliter

TOC= Well Top of Casing

During well purging, the Teflon-lined tubing was lowered as needed when the water level dropped to the depth of the intake, causing air to be recovered.

# Table 4-5: Groundwater Quality Field Parameters for October 2013 Monitoring Event, VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | GroundWater Quality Field Parameters | | | | | |
|---|---|---|---|---|---|---|
| | Temp (Celcius) | pH (SU) | ORP (mV) | Specific Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) |
| LAW-PZ-8R (1) | 31.52 | 5.63 | -42.00 | 0.910 | 310.00 | 0.36 |
| PAN-MW-9 (2) | 25.93 | 4.93 | 71.00 | 0.670 | 44.40 | 1.87 |
| PAN-MW-10 (2) | 23.33 | 6.08 | 199.00 | 0.451 | 40.60 | 1.87 |
| MW-14 (2) | 22.20 | 7.31 | 7.00 | 0.571 | 9.60 | 0.73 |
| MW-16 (1) | 22.61 | 5.57 | 22.00 | 0.528 | 89.00 | 0.64 |
| MW-17R (1) | 27.23 | 6.15 | -19.00 | 0.280 | 28.80 | 2.09 |
| IW-18 (1) | 27.45 | 4.55 | 89.00 | 1.720 | 65.70 | 0.47 |
| MW-18R (1) | 27.71 | 4.50 | 223.00 | 0.319 | 17.40 | 0.84 |
| MW-19 (1) | 26.66 | 6.10 | 23.00 | 0.950 | 4.10 | 0.82 |
| MW-23 (1) | 27.75 | 6.51 | -15.00 | 0.968 | 36.50 | 0.76 |
| MW-24R (1) | 21.27 | 4.56 | 155.00 | 0.518 | 42.50 | 0.53 |
| MW-25 (1) | 26.99 | 6.08 | -50.00 | 0.947 | 7.10 | 1.18 |
| MW-26R (1) | 28.69 | 5.65 | 31.00 | 0.399 | 9.80 | 0.61 |
| MW-27 (1) | 27.73 | 6.11 | 54.00 | 0.999 | 111.00 | 1.15 |
| MW-29 (0.75) | 23.91 | 4.63 | 105.00 | 1.710 | 153.00 | 0.78 |
| MW-30 (2) | 29.00 | 4.44 | 146.00 | 0.327 | 6.80 | 0.68 |
| MW-31 (2) | NS | NS | NS | NS | NS | NS |
| MW-32 (2) | 27.49 | 4.89 | 101.00 | 1.280 | 7.60 | 0.95 |
| MW-33 (2) | 29.61 | 5.42 | 33.00 | 0.497 | 36.10 | 0.74 |
| MW-34 (2) | 27.35 | 4.47 | 214.00 | 0.208 | 23.50 | 1.29 |

**Notes:**

Field parameters were recorded by EIC from 10/1/2013 to 10/3/2013 after parameters had stabilized and prior to sample collection.

Parameters were measured with a Horiba U-52 Water Quality Meter with a Flow-Through Cell.

ID= Identity
SU= Standard Unit
mV= Millivolts
mS/cm= Microsiemens per centimeter
NTU= Nephelometric Turbidity Unit
mg/L= Milligrams per liter
NS = Well not sampled because inaccessible due to being covered in construction material

## Table 4-6: Groundwater Quality Field Parameters for January 2014 Monitoring Event
## VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | GroundWater Quality Field Parameters | | | | | |
|---|---|---|---|---|---|---|
| | Temp (Celcius) | pH (SU) | ORP (mV) | Specific Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) |
| LAW-PZ-8R (1) | 17.34 | 6.04 | -73.00 | 0.939 | 390.00 | 0.86 |
| PAN-MW-9 (2) | 19.39 | 6.17 | 43.00 | 0.480 | 0.00 | 2.29 |
| PAN-MW-10 (2) | 15.11 | 4.98 | 56.00 | 0.772 | 19.50 | 1.10 |
| MW-14 (2) | 19.44 | 7.42 | 9.00 | 0.561 | 0.50 | 1.74 |
| MW-16 (1) | 16.07 | 5.82 | 57.00 | 0.581 | 73.00 | 1.16 |
| MW-17R (1) | 18.20 | 6.26 | 47.00 | 0.297 | 25.20 | 1.62 |
| IW-18 (1) | 16.80 | 4.99 | 32.00 | 0.876 | 46.30 | 0.71 |
| MW-18R (1) | 15.45 | 4.19 | 2.85 | 0.339 | 4.70 | 2.96 |
| MW-19 (1) | 18.05 | 6.53 | -15.00 | 1.090 | 4.90 | 3.19 |
| MW-23 (1) | 19.01 | 6.56 | 31.00 | 1.110 | 2.80 | 1.72 |
| MW-24R (1) | 14.87 | 4.71 | 87.00 | 0.513 | 71.50 | 1.18 |
| MW-25 (1) | 18.94 | 6.18 | -33.00 | 0.773 | 6.20 | 1.23 |
| MW-26R (1) | 20.91 | 5.88 | 43.00 | 0.653 | 8.00 | 1.77 |
| MW-27 (1) | 22.03 | 6.25 | 25.00 | 0.893 | 4.20 | 1.48 |
| MW-29 (0.75) | 17.40 | 4.72 | 71.00 | 1.770 | 39.60 | 0.66 |
| MW-30 (2) | 19.84 | 4.62 | 90.00 | 0.317 | 0.00 | 1.66 |
| MW-31 (2) | 21.20 | 6.62 | 18.00 | 1.060 | 0.00 | 1.14 |
| MW-32 (2) | 19.47 | 4.76 | 148.00 | 1.210 | 0.00 | 0.63 |
| MW-33 (2) | 18.52 | 5.45 | 43.00 | 0.494 | 0.00 | 1.35 |
| MW-34 (2) | 19.32 | 4.48 | 166.00 | 0.186 | 2.50 | 1.37 |
| MW-35 (2) | 17.22 | 6.77 | 50.00 | 0.675 | 0.00 | 1.00 |
| MW-36 (2) | 20.99 | 6.51 | -3.00 | 1.410 | 0.00 | 0.83 |
| MW-37 (2) | 17.79 | 5.34 | 120.00 | 0.295 | 41.10 | 1.33 |

**Notes:**

Field parameters were recorded by EIC from 1/19/2014 to 1/21/2014 after parameters had stabilized and prior to sample collection.

Parameters were measured with a Horiba U-52 Water Quality Meter with a Flow-Through Cell.

ID= Identity

SU= Standard Unit

mV= Millivolts

mS/cm= Microsiemens per centimeter

NTU= Nephelometric Turbidity Unit

mg/L= Milligrams per liter

**TABLE 4-7**
**VOPAK**
**Savannah, GA**
**Groundwater Natural Attenuation Parameters (Modified from ERM, 2010)**

| Wells | LAW-PZ-8 / LAW-PZ-8R | PAN MW-9 | PAN-MW-10 | MW-14*[1] | MW-15*[2] | MW-16 | MW-17 / MW-17R | IW-18*[3] | MW-18 / MW-18R | MW-19 | MW-20*[4] | MW-21*[5] | MW-22 / MW-22R*[6] | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27[-7] | MW-29 | MW-30*[8] | MW-31*[9] | MW-32*[10] | MW-33*[11] | MW-34*[12] | MW-35[-14] | MW-36[-14] | MW-37[-14] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | 5.64 | 6.29 | 7.54 | 8.18 | 5.57 | 3.71 | NS | NS | 6.40 | 6.17 | NS | 4.98 | 6.88 | 4.87 | NS | 4.24 | 5.81 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | 5.66 | 4.43 | 6.42 | 6.60 | 6.97 | 5.27 | 3.99 | NS | NS | 6.15 | 6.40 | 4.03 | 3.94 | 6.35 | 4.70 | 6.21 | 4.35 | 5.62 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | NS | 5.04 | NS | NS | NS | NS | 3.72 | NS | 3.95 | NS | NS | NS | 4.09 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | NS | 5.49 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 4.45 | 4.23 | NS | NS | NS | 4.09 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | NS | 3.54 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 2.88 | 2.74 | NS | NS | NS | 2.60 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | NS | 4.63 | NS | 7.48 | 7.63 | 5.60 | 4.93 | NS | 4.05 | NS | NS | 4.87 | 4.35 | NS | 5.23 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | 4.80 | 5.11 | NS | 8.90 | 11.10 | 6.40 | 5.20 | NS | 4.10 | NS | NS | 4.60 | 3.67 | NS | 5.20 | NS | 5.30 | NS | 5.80 | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | 5.38 | 4.52 | NS | 6.67 | 7.15 | 5.45 | 5.95 | NS | 4.45 | NS | NS | 4.61 | 4.04 | NS | 4.58 | NS | 5.21 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | 5.41 | 4.87 | NS | 7.09 | 7.39 | 5.47 | 5.91 | NS | 4.34 | NS | NS | 4.75 | 4.01 | NS | 4.35 | NS | 5.65 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | 4.92 | 4.87 | 6.65 | 7.44 | 7.20 | 5.52 | 6.08 | NS | 4.33 | 6.12 | NS | 4.67 | NS | 6.63 | 4.47 | 6.17 | 5.68 | 6.17 | 4.49 | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | 4.62 | 3.39 | NS | 6.60 | NS | 5.27 | 5.61 | NS | 4.27 | NS | NS | NS | 2.44 | NS | 3.74 | NS | 4.94 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | 4.38 | 4.24 | NS | 7.38 | NS | 4.65 | 5.94 | NS | 3.88 | NS | NS | NS | 4.82 | NS | 4.08 | NS | 5.84 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | 4.26 | 3.49 | 5.48 | 6.94 | 6.53 | 5.29 | NS | NS | 3.38 | 5.47 | NS | NS | 4.83 | 6.09 | 4.29 | 5.71 | 4.70 | 5.99 | 4.32 | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | 5.41 | 4.21 | NS | 6.55 | NS | 5.87 | 5.98 | NS | 4.89 | NS | NS | NS | 5.16 | NS | 4.54 | NS | 5.95 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-10 | 5.50 | 5.17 | 6.13 | NL | 6.05 | 6.01 | 5.99 | NS | 5.48 | 6.07 | NL | NL | NU | 6.46 | 5.37 | 6.19 | 5.99 | 6.34 | 5.21 | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | 5.51 | 5.40 | 6.32 | NL | NU | 4.91 | 6.10 | 4.43 | 4.69 | 6.30 | NL | NL | NU | 6.67 | 4.51 | 6.29 | 5.83 | 6.42 | 4.56 | 4.98 | 6.69 | 5.30 | 5.40 | 4.50 | NI | NI | NI |
| Jan-12 | 5.13 | 3.96 | 5.72 | NL | NU | 5.08 | 5.51 | 4.15 | 4.65 | 5.68 | NL | NL | NU | 6.01 | 4.48 | 5.62 | 5.40 | 5.83 | 4.36 | 4.66 | 5.96 | 4.72 | 5.30 | 4.35 | NI | NI | NI |
| Apr-12 | 5.83 | 4.24 | 6.24 | NL | NU | 5.99 | 6.16 | 4.66 | 4.56 | 6.25 | NL | NL | NU | 6.69 | 4.69 | 6.33 | 5.93 | 6.56 | 4.76 | 5.17 | 6.69 | 5.30 | 5.61 | 4.62 | NI | NI | NI |
| Jul-12 | 5.86 | 5.27 | 6.35 | NL | NU | 5.58 | 6.19 | 4.67 | 4.46 | 6.17 | NL | NL | NU | 6.64 | 4.62 | 6.26 | 5.97 | 6.34 | 4.73 | 5.24 | 6.66 | 5.69 | 5.52 | 4.51 | NI | NI | NI |
| Oct-12 | 5.60 | 4.38 | 6.02 | NL | NU | 5.75 | 6.12 | 4.48 | 5.13 | 6.02 | NL | NL | NU | 6.55 | 4.57 | 6.15 | 5.74 | 6.33 | 4.76 | 4.79 | 6.52 | 4.86 | 5.47 | 4.20 | NI | NI | NI |
| Jan-13 | 5.48 | 4.14 | 5.82 | NS | NU | 4.61 | 6.06 | 4.32 | 4.81 | 5.89 | NL | NL | NU | 6.55 | 4.48 | 5.91 | 5.43 | 6.03 | 4.45 | 4.68 | 6.44 | 4.66 | 5.26 | 4.29 | NI | NI | NI |
| Apr-13 | 5.55 | 4.41 | 6.11 | NS | NU | 5.75 | 6.16 | 4.50 | 4.01 | 5.84 | NL | NL | NU | 6.18 | 4.57 | 6.01 | 5.73 | 5.98 | 4.57 | 4.69 | 6.47 | 4.75 | 5.27 | 4.24 | NI | NI | NI |
| Jul-13 | 5.40 | 4.96 | 6.20 | NS | NU | 5.30 | 5.94 | 4.45 | 4.30 | 6.14 | NL | NL | NU | 6.33 | 4.35 | 6.01 | 5.50 | 5.81 | 4.37 | 4.33 | 6.26 | 4.75 | 5.24 | 4.14 | NI | NI | NI |
| Oct-13 | 5.63 | 4.93 | 6.08 | 7.31 | NU | 5.57 | 6.15 | 4.55 | 4.50 | 6.10 | NL | NL | NU | 6.51 | 4.56 | 6.08 | 5.65 | 6.11 | 4.63 | 4.44 | NS | 4.89 | 5.42 | 4.47 | NI | NI | NI |
| Jan-14 | 6.04 | 4.98 | 6.17 | 7.42 | NU | 5.82 | 6.26 | 4.99 | 4.19 | 6.53 | NL | NL | NU | 6.56 | 4.71 | 6.18 | 5.88 | 6.25 | 4.72 | 4.62 | 6.62 | 4.76 | 5.45 | 4.48 | 6.77 | 6.51 | 5.34 |
| **Temperature (ºC)** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | 26.09 | 26.90 | 23.92 | 30.14 | 24.33 | 25.80 | NS | NS | 27.84 | 23.99 | NS | 25.19 | 25.27 | 22.71 | NS | 26.41 | 26.25 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | NS | 17.30 | NS | NS | NS | NS | 21.17 | NS | 19.57 | NS | NS | NS | 18.20 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | NS | 21.35 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 21.40 | 20.91 | NS | NS | NS | 23.00 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | NS | 23.79 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 25.06 | 25.12 | NS | NS | NS | 26.79 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | NS | 22.45 | NS | 22.76 | 24.08 | 24.45 | 26.75 | NS | 27.12 | NS | NS | 22.97 | 24.20 | NS | 24.20 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | 23.00 | 24.39 | NS | 21.00 | 21.00 | 23.00 | 24.73 | NS | 26.16 | NS | NS | 23.00 | 24.60 | NS | 21.00 | NS | 26.00 | NS | 20.00 | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | 20.05 | 21.54 | NS | 22.01 | 23.60 | 22.16 | 23.72 | NS | 21.80 | NS | NS | 22.98 | 22.02 | NS | 20.63 | NS | 21.93 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | 18.71 | 19.21 | NS | 21.71 | 22.29 | 19.95 | 24.45 | NS | 19.22 | NS | NS | 20.44 | 20.68 | NS | 18.79 | NS | 20.68 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | 28.90 | 24.78 | 27.40 | 21.93 | 25.83 | 24.99 | 28.95 | NS | 27.37 | 27.84 | NS | 27.46 | NS | 26.80 | 23.67 | 28.31 | 31.12 | 27.03 | 24.67 | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | 25.70 | 19.38 | NS | 20.77 | NS | 20.15 | 25.25 | NS | 22.82 | NS | NS | NS | 22.78 | NS | 20.65 | NS | 24.69 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | 21.05 | 19.97 | NS | 20.71 | NS | 21.40 | 22.06 | NS | 21.81 | NS | NS | NS | 20.91 | NS | NS | NS | 22.22 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | 22.14 | 18.49 | 19.94 | 21.34 | 21.84 | 20.06 | 21.40 | NS | 19.76 | 18.93 | NS | NS | 20.94 | 17.84 | 18.90 | 21.24 | 21.08 | 18.92 | 20.77 | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | 30.96 | 26.51 | NS | 22.64 | NS | 27.23 | 26.48 | NS | 27.32 | NS | NS | NS | 27.10 | NS | 25.60 | NS | 29.67 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-10 | 24.02 | 20.28 | 21.43 | NL | 24.13 | 20.48 | 23.17 | NS | 21.14 | 20.64 | NL | NL | NU | 20.27 | 19.16 | 21.32 | 22.57 | 20.74 | 19.08 | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | 26.05 | 23.70 | 24.89 | NL | NU | 22.08 | 23.97 | 29.24 | 26.72 | 24.54 | NL | NL | NU | 23.08 | 23.68 | 25.30 | 27.49 | 25.44 | 24.45 | 25.58 | 23.18 | 26.20 | 23.80 | 25.72 | NI | NI | NI |
| Jan-12 | 20.79 | 19.65 | 20.89 | NL | NU | 18.59 | 23.41 | 22.95 | 20.81 | 22.22 | NL | NL | NU | 21.82 | 17.70 | 22.63 | 21.07 | 22.32 | 19.03 | 20.54 | 22.01 | 22.40 | 20.25 | 19.47 | NI | NI | NI |
| Apr-12 | 23.09 | 23.17 | 26.64 | NL | NU | 23.68 | 27.34 | 25.44 | 25.84 | 24.85 | NL | NL | NU | 20.29 | 22.30 | 26.44 | 27.38 | 20.82 | 24.17 | 27.17 | 20.46 | 25.45 | 22.48 | 22.60 | NI | NI | NI |
| Jul-12 | 33.91 | 31.11 | 31.53 | NL | NU | 33.48 | 35.60 | 34.55 | 32.97 | 29.91 | NL | NL | NU | 28.20 | 29.86 | 32.51 | 34.06 | 30.01 | 27.95 | 33.00 | 28.98 | 32.94 | 28.74 | 30.92 | NI | NI | NI |
| Oct-12 | 24.30 | 21.02 | 25.53 | NL | NU | 14.18 | 21.21 | 24.12 | 22.29 | 19.30 | NL | NL | NU | 21.20 | 17.54 | 24.53 | 25.27 | 21.90 | 17.61 | 24.90 | 19.79 | 24.21 | 22.39 | 18.35 | NI | NI | NI |
| Jan-13 | 20.33 | 16.00 | 20.17 | NS | NU | 15.61 | 20.11 | 22.72 | 19.33 | 14.72 | NL | NL | NU | 17.83 | 17.17 | 20.67 | 19.61 | 18.05 | 14.61 | 20.39 | 18.44 | 21.17 | 18.50 | 21.00 | NI | NI | NI |
| Apr-13 | 23.34 | 26.36 | 20.75 | NS | NU | 25.27 | 25.08 | 25.65 | 20.10 | 22.19 | NL | NL | NU | 21.27 | 18.95 | 22.59 | 23.25 | 22.64 | 19.12 | 21.22 | 20.72 | 21.16 | 24.40 | 22.15 | NI | NI | NI |
| Jul-13 | 29.49 | 27.45 | 25.66 | NS | NU | 24.75 | 23.31 | 26.51 | 25.72 | 24.66 | NL | NL | NU | 23.57 | 25.12 | 24.59 | 26.51 | 24.25 | 22.57 | 26.07 | 21.95 | 25.16 | 23.78 | 24.98 | NI | NI | NI |
| Oct-13 | 31.52 | 25.93 | 23.33 | 22.20 | NU | 22.61 | 27.23 | 27.45 | 27.71 | 26.66 | NL | NL | NU | 27.75 | 21.27 | 26.99 | 28.69 | 27.73 | 27.40 | 29.00 | NS | 27.49 | 29.61 | 27.35 | NI | NI | NI |
| Jan-14 | 17.34 | 15.11 | 19.39 | 19.44 | NU | 16.07 | 18.20 | 16.80 | 15.45 | 18.05 | NL | NL | NU | 19.01 | 14.87 | 18.94 | 20.91 | 22.03 | 17.40 | 19.84 | 21.20 | 19.47 | 18.52 | 19.32 | 17.22 | 20.99 | 17.79 |

**TABLE 4-7**
**VOPAK**
**Savannah, GA**
**Groundwater Natural Attenuation Parameters (Modified from ERM, 2010)**

| Wells | LAW-PZ-8 / LAW-PZ-8R | PAN MW-9 | PAN-MW-10 | MW-14*1 | MW-15*2 | MW-16 | MW-17 / MW-17R | IW-18*3 | MW-18 / MW-18R | MW-19 | MW-20*4 | MW-21*5 | MW-22 / MW-22R*6 | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27*7 | MW-29 | MW-30*8 | MW-31*9 | MW-32*10 | MW-33*11 | MW-34*12 | MW-35*14 | MW-36*14 | MW-37*14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dissolved Oxygen, mg/L** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | 0.51 | 0.45 | 0.39 | 0.70 | 0.79 | 0.36 | NS | NS | 0.49 | 1.44 | NS | 0.57 | 0.35 | 0.55 | NS | 2.14 | 0.33 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | NS | 0.13 | NS | NS | NS | NS | 0.19 | NS | 0.17 | NS | NS | NS | 0.17 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | NS | 0.11 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 1.73 | 0.43 | NS | NS | NS | 0.36 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | NS | 0.11 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.16 | 0.42 | NS | NS | NS | 0.12 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | NS | 0.30 | NS | 22.40 | 3.50 | 7.18 | 2.14 | NS | 1.53 | NS | NS | 0.81 | 1.04 | NS | 7.86 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | NS | 3.75 | NS | 2.80 | 4.40 | 6.50 | 1.86 | NS | 0.88 | NS | NS | 2.70 | 0.81 | NS | 5.00 | NS | 1.60 | NS | 11.20 | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | 0.68 | 0.14 | NS | 6.04 | 3.76 | 1.49 | 1.56 | NS | 1.09 | NS | NS | 0.41 | 3.15 | NS | 2.03 | NS | 0.69 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | 1.48 | 19.69 | NS | 2.98 | 4.39 | 6.13 | 11.22 | NS | 0.42 | NS | NS | 7.35 | 2.25 | NS | 114.19 | NS | 0.70 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | 0.92 | 4.92 | 4.23 | 5.35 | 5.80 | 0.79 | 3.64 | NS | 1.24 | 1.88 | NS | 2.38 | NS | 2.11 | 0.54 | 1.49 | 1.46 | 1.13 | 2.59 | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | 1.07 | 4.02 | NS | 2.38 | NS | 5.71 | 2.47 | NS | 2.32 | NS | NS | NS | 0.89 | NS | 1.63 | NS | 2.15 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | 0.41 | 34.00 | NS | 1.61 | NS | 2.00 | 3.31 | NS | 1.10 | NS | NS | NS | 5.68 | NS | 2.53 | NS | 0.69 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | 0.24 | 0.62 | 0.38 | 3.89 | 0.84 | 3.22 | 0.94 | NS | 1.34 | 0.64 | NS | NS | 1.32 | 0.68 | 0.83 | 0.54 | 0.46 | 0.82 | 1.16 | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | 1.88 | 1.38 | NS | 2.44 | NS | 120.00 | 3.02 | NS | 1.24 | NS | NS | NS | 36.00 | NS | 1.00 | NS | 107.00 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-10 | 1.38 | 2.98 | 1.83 | NL | 1.75 | 1.81 | 1.49 | NS | 9.00 | 2.03 | NL | NL | NU | 1.98 | 2.99 | 2.09 | 1.86 | 3.42 | 2.20 | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | 0.00 | 0.79 | 0.00 | NL | NU | 0.00 | 3.69 | 0.00 | 0.00 | 1.14 | NL | NL | NU | 0.00 | 0.00 | 0.00 | 0.00 | 3.39 | 0.00 | 0.00 | 5.10 | 0.32 | 0.00 | 0.43 | NI | NI | NI |
| Jan-12 | 0.33 | 3.62 | 0.00 | NL | NU | 0.05 | 0.21 | 0.00 | 0.07 | 0.08 | NL | NL | NU | 0.51 | 0.00 | 0.00 | 0.00 | 7.28 | 0.00 | 0.00 | 0.07 | 1.17 | 0.00 | 0.03 | NI | NI | NI |
| Apr-12 | 0.34 | 2.27 | 1.62 | NL | NU | 0.59 | 0.38 | 0.07 | 0.15 | 0.16 | NL | NL | NU | 0.37 | 0.56 | 0.20 | 0.23 | 7.33 | 1.29 | 0.25 | 0.33 | 0.17 | 0.93 | 0.03 | NI | NI | NI |
| Jul-12 | 0.00 | 0.47 | 0.52 | NL | NU | 1.77 | 0.74 | 0.13 | 0.34 | 5.04 | NL | NL | NU | 1.70 | 0.04 | 0.26 | 0.29 | 0.90 | 0.00 | 0.00 | 0.76 | 1.78 | 0.38 | 3.82 | NI | NI | NI |
| Oct-12 | 1.19 | 1.73 | 1.00 | NL | NU | 1.59 | 5.36 | 0.83 | 1.01 | 2.06 | NL | NL | NU | 1.36 | 1.33 | 1.13 | 0.86 | 7.69 | 8.36 | 3.15 | 1.54 | 3.99 | 1.42 | 2.21 | NI | NI | NI |
| Jan-13 | 0.40 | 1.58 | 0.80 | NS | NU | 8.36 | 7.42 | 2.10 | 0.54 | 0.90 | NL | NL | NU | 4.18 | 0.59 | 4.26 | 0.53 | 7.46 | 0.81 | 0.56 | 0.55 | 0.63 | 0.52 | 0.65 | NI | NI | NI |
| Apr-13 | 0.46 | 0.59 | 1.39 | NS | NU | 0.61 | 2.84 | 0.46 | 0.68 | 0.57 | NL | NL | NU | 0.72 | 0.70 | 0.72 | 0.67 | 5.64 | 1.14 | 0.77 | 0.94 | 0.84 | 0.43 | 0.66 | NI | NI | NI |
| Jul-13 | 0.53 | 0.54 | 2.81 | NS | NU | 1.09 | 2.72 | 0.50 | 0.55 | 0.57 | NL | NL | NU | 0.99 | 0.58 | 0.74 | 0.54 | 0.78 | 0.70 | 0.61 | 0.72 | 0.56 | 2.92 | 0.82 | NI | NI | NI |
| Oct-13 | 0.36 | 1.87 | 1.87 | 0.73 | NU | 0.64 | 2.09 | 0.47 | 0.84 | 0.82 | NL | NL | NU | 0.76 | 0.53 | 1.18 | 0.61 | 1.15 | 0.78 | 0.68 | NS | 0.95 | 0.74 | 1.29 | NI | NI | NI |
| Jan-14 | 0.86 | 1.10 | 2.29 | 1.74 | NU | 1.16 | 1.62 | 0.71 | 2.96 | 3.19 | NL | NL | NU | 1.72 | 1.10 | 1.23 | 1.77 | 1.48 | 0.66 | 1.66 | 1.14 | 0.63 | 1.35 | 1.37 | 1.00 | 0.83 | 1.33 |
| **Conductivity, ms/cm** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | 0.341 | 0.404 | 0.373 | 0.384 | 0.302 | 4.170 | NS | NS | 0.423 | 0.292 | NS | 0.649 | 0.532 | 0.317 | NS | 0.227 | 0.217 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | NS | 0.340 | NS | NS | NS | NS | 2.860 | NS | 0.310 | NS | NS | NS | 0.570 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | NS | 0.310 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.145 | 0.377 | NS | NS | NS | 23.000 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | NS | 0.326 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.215 | 0.483 | NS | NS | NS | 0.324 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | NS | 0.585 | NS | 0.470 | 0.481 | 0.319 | 2.587 | NS | 0.308 | NS | NS | 12.525 | 3.515 | NS | 0.262 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | 0.001 | 0.575 | NS | 0.400 | 0.410 | 0.310 | 0.429 | NS | 0.235 | NS | NS | 0.500 | 6.943 | NS | 0.340 | NS | 0.460 | NS | 0.740 | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | 0.609 | 0.490 | NS | 0.451 | 0.217 | 0.322 | 0.790 | NS | 0.122 | NS | NS | 0.408 | 5.162 | NS | 0.743 | NS | 0.476 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | 0.618 | 0.401 | NS | 0.465 | 0.480 | 0.419 | 0.872 | NS | 0.150 | NS | NS | 0.854 | 5.809 | NS | 1.303 | NS | 0.443 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | 0.333 | 1.440 | 0.560 | 0.451 | 0.134 | 0.407 | 0.726 | NS | 0.212 | 0.209 | NS | 0.468 | NS | 0.220 | 1.554 | 0.300 | 0.444 | 0.487 | 0.694 | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | 0.809 | 1.004 | NS | 0.454 | NS | 0.382 | 0.857 | NS | 0.296 | NS | NS | NS | 4.940 | NS | 0.996 | NS | 0.519 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | 0.606 | 1.282 | NS | 0.406 | NS | 0.418 | 0.525 | NS | 0.270 | NS | NS | NS | 1.279 | NS | 0.406 | NS | 0.395 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | 0.779 | 1.053 | 0.334 | 0.442 | 1.100 | 0.486 | 0.579 | NS | 0.250 | 0.624 | NS | NS | 1.530 | 1.049 | 0.629 | 0.397 | 0.810 | 0.626 | 0.618 | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | 0.718 | 0.947 | NS | 0.480 | NS | 0.572 | 0.513 | NS | 0.273 | NS | NS | NS | 1.074 | NS | 0.548 | NS | 0.647 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-10 | 0.824 | 1.816 | 0.394 | NL | 0.615 | 0.612 | 0.566 | NS | 0.291 | 0.941 | NL | NL | NU | 1.126 | 0.649 | 0.524 | 0.674 | 1.087 | 2.078 | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | 0.930 | 0.407 | 0.530 | NL | NU | 0.397 | 0.514 | 1.490 | 0.305 | 0.824 | NL | NL | NU | 1.200 | 0.534 | 0.699 | 0.391 | 0.639 | 1.460 | 0.192 | 1.340 | 1.080 | 0.559 | 0.208 | NI | NI | NI |
| Jan-12 | 0.621 | 0.835 | 0.253 | NL | NU | 0.302 | 0.392 | 1.390 | 0.194 | 0.602 | NL | NL | NU | 0.759 | 0.335 | 0.671 | 0.725 | 0.660 | 1.480 | 0.148 | 0.992 | 0.858 | 0.418 | 0.160 | NI | NI | NI |
| Apr-12 | 0.901 | 1.170 | 0.436 | NL | NU | 0.451 | 0.642 | 1.540 | 0.265 | 0.887 | NL | NL | NU | 1.130 | 0.525 | 1.060 | 0.660 | 0.817 | 1.620 | 0.218 | 1.310 | 1.060 | 0.519 | 0.206 | NI | NI | NI |
| Jul-12 | 0.682 | 0.404 | 0.422 | NL | NU | 0.306 | 0.404 | 1.360 | 0.243 | 0.686 | NL | NL | NU | 0.846 | 0.426 | 0.814 | 0.350 | 0.407 | 1.430 | 0.191 | 0.889 | 0.687 | 0.393 | 0.150 | NI | NI | NI |
| Oct-12 | 0.789 | 0.997 | 0.352 | NL | NU | 0.492 | 0.398 | 1.610 | 0.319 | 0.962 | NL | NL | NU | 1.050 | 0.514 | 0.877 | 0.522 | 0.774 | 1.830 | 0.200 | 1.190 | 1.250 | 0.511 | 0.207 | NI | NI | NI |
| Jan-13 | 0.902 | 1.180 | 0.344 | NS | NU | 0.288 | 0.350 | 1.520 | 0.295 | 1.020 | NL | NL | NU | 0.980 | 0.458 | 1.460 | 1.100 | 0.904 | 1.750 | 0.212 | 1.120 | 1.260 | 0.455 | 0.201 | NI | NI | NI |
| Apr-13 | 0.881 | 0.875 | 0.444 | NS | NU | 0.517 | 0.268 | 1.370 | 0.286 | 0.961 | NL | NL | NU | 1.030 | 0.470 | 1.240 | 0.590 | 0.828 | 1.640 | 0.272 | 1.020 | 1.200 | 0.384 | 0.186 | NI | NI | NI |
| Jul-13 | 1.060 | 0.672 | 0.720 | NS | NU | 0.538 | 0.310 | 1.070 | 0.338 | 1.060 | NL | NL | NU | 0.895 | 0.600 | 0.757 | 0.463 | 1.070 | 1.740 | 0.292 | 1.170 | 1.150 | 0.487 | 0.209 | NI | NI | NI |
| Oct-13 | 0.910 | 0.670 | 0.451 | 0.571 | NU | 0.528 | 0.280 | 1.720 | 0.319 | 0.950 | NL | NL | NU | 0.968 | 0.518 | 0.947 | 0.399 | 0.999 | 1.710 | 0.327 | NS | 1.280 | 0.497 | 0.208 | NI | NI | NI |
| Jan-14 | 0.939 | 0.772 | 0.480 | 0.561 | NU | 0.581 | 0.297 | 0.876 | 0.339 | 1.090 | NL | NL | NU | 1.110 | 0.513 | 0.773 | 0.653 | 0.893 | 1.770 | 0.317 | 1.060 | 1.210 | 0.494 | 0.186 | 0.675 | 1.410 | 0.295 |

**TABLE 4-7**
**VOPAK**
**Savannah, GA**
**Groundwater Natural Attenuation Parameters (Modified from ERM, 2010)**

| Wells | LAW-PZ-8 / LAW-PZ-8R | PAN MW-9 | PAN-MW-10 | MW-14*1 | MW-15*2 | MW-16 | MW-17 / MW-17R | IW-18*3 | MW-18 / MW-18R | MW-19 | MW-20*4 | MW-21*5 | MW-22 / MW-22R*6 | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27*7 | MW-29 | MW-30*8 | MW-31*9 | MW-32*10 | MW-33*11 | MW-34*12 | MW-35*14 | MW-36*14 | MW-37*14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ORP, mv** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NS | -180.0 | -6.0 | -153.0 | -164.0 | -26.0 | -22.0 | NS | NS | 6.0 | 22.0 | NS | 16.0 | 134.0 | 178.0 | NS | 323.0 | 75.0 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | NS | 142.7 | NS | NS | NS | NS | 67.7 | NS | 233.9 | NS | NS | NS | 208.9 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | NS | 66.9 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 25.5 | 169.5 | NS | NS | NS | 231.6 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | NS | -112.6 | NS | NS | NS | NS | NS | NS | NS | NS | NS | -18.1 | 146.1 | NS | NS | NS | 223.3 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | NS | -21.6 | NS | 44.7 | NS | 31.2 | 32.1 | NS | 332.2 | NS | NS | -69.6 | 38.6 | NS | 78.4 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | NS | -227.7 | NS | NS | NS | NS | -96.1 | NS | 244.9 | NS | NS | NS | 85.2 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | -151.8 | -184.4 | NS | -181.2 | -179.4 | -156.1 | -182.3 | NS | -154.8 | NS | NS | -154.3 | -178.9 | NS | -146.4 | NS | -156.2 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | -203.2 | -179.5 | NS | -81.5 | -189.1 | -63.3 | -156.3 | NS | 226.3 | NS | NS | -187.8 | -87.0 | NS | -101.7 | NS | -204.5 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | -11.4 | -29.6 | 103.3 | 66.2 | -148.6 | -25.8 | -77.3 | NS | 312.2 | 4.9 | NS | -62.7 | NS | -102.5 | 37.3 | -103.4 | -72.0 | 48.3 | 48.1 | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | 139.7 | 163.7 | NS | 353.9 | NS | 60.0 | -26.5 | NS | 317.0 | NS | NS | NS | 300.4 | NS | 199.9 | NS | 34.4 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | -4.3 | 35.0 | NS | -47.9 | NS | 23.1 | -50.3 | NS | 338.7 | NS | NS | NS | -104.9 | NS | 120.2 | NS | -104.6 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | 18.2 | 91.8 | -23.5 | 49.3 | -53.2 | 10.2 | -97.6 | NS | 446.0 | -19.3 | NS | NS | -24.2 | -101.0 | 132.0 | -132.0 | -23.2 | 8.9 | -31.3 | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | -139.0 | -119.0 | NS | -8.2 | NS | 59.6 | -89.4 | NS | 81.3 | NS | NS | NS | -111.0 | NS | 120.0 | NS | -19.1 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-10 | 48.7 | 118.0 | -5.6 | NL | -24.2 | 15.9 | -64.4 | NS | 150.4 | -7.8 | NL | NL | NU | -74.0 | 118.0 | -102.0 | 42.8 | 18.2 | -12.7 | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | 94 | 99 | 183 | NL | NU | 182 | 83 | 201 | 368 | 192 | NL | NL | NU | 159 | 237 | 41 | 86 | 176 | 163 | 141 | 148 | 127 | 113 | 385 | NI | NI | NI |
| Jan-12 | -45 | 46 | 58 | NL | NU | -11 | -72 | 78 | 290 | 71 | NL | NL | NU | -47 | 96 | -99 | -59 | 41 | 19 | 18 | 4 | 36 | -43 | 232 | NI | NI | NI |
| Apr-12 | -121 | -52 | 36 | NL | NU | -52 | -136 | 34 | 313 | 65 | NL | NL | NU | -53 | 77 | -120 | -119 | 5 | -64 | -145 | 0 | -98 | -110 | 197 | NI | NI | NI |
| Jul-12 | -109 | -132 | 98 | NL | NU | -104 | -100 | 40 | 327 | 44 | NL | NL | NU | -73 | -1 | -113 | -66 | 24 | -92 | -135 | -15 | -57 | -137 | 223 | NI | NI | NI |
| Oct-12 | -75 | -18 | 95 | NL | NU | -34 | -76 | 42 | 215 | 56 | NL | NL | NU | -22 | 85 | -110 | -81 | 6 | -2 | -11 | -2 | -94 | -133 | 344 | NI | NI | NI |
| Jan-13 | -84 | 20 | 128 | NS | NU | 7 | -93 | 44 | 3 | 41 | NL | NL | NU | -82 | 94 | -101 | -54 | 42 | 26 | 17 | 34 | -29 | -47 | 248 | NI | NI | NI |
| Apr-13 | 23 | 32 | 223 | NS | NU | -49 | -9 | 146 | -436 | 141 | NL | NL | NU | 52 | 70 | -51 | 20 | 150 | -24 | 75 | 75 | -74 | -65 | 329 | NI | NI | NI |
| Jul-13 | -46 | 0 | 217 | NS | NU | -1 | -28 | 72 | 369 | 29 | NL | NL | NU | -3 | 103 | -75 | -21 | 63 | 91 | 108 | 19 | 81 | -5 | 259 | NI | NI | NI |
| Oct-13 | -42 | 71 | 199 | 7.00 | NU | 22 | -19 | 89 | 223 | 23 | NL | NL | NU | -15 | 155 | -50 | 31 | 54 | 105 | 146 | NS | 101 | 33 | 214 | NI | NI | NI |
| Jan-14 | -73 | 56 | 43 | 9.00 | NU | 57 | 47 | 32 | 285 | -15 | NL | NL | NU | 31 | 87 | -33 | 43 | 25 | 71 | 90 | 18 | 148 | 43 | 166 | 50 | -3 | 120 |

**Notes:**

All parameters measurements listed, beginning on October 2011, were recorded after parameters had stablized and prior to sample collection, utilizing a Horiba U-52 water quality measuring device.
NS = Not sampled
NL= Not Located
NU= Located but Not Used due to being silted up
NI = Well Not Yet Installed
LAW-PZ-8 was found damaged during June 2006 sampling event and was not sampled. It was replaced by LAW-PZ-8R on October 9, 2006
MW-17 was replaced by MW-17R on October 10, 2006
MW-26 was replaced by MW-26R on October 9, 2006
*1 MW-14 was located by surveyors on January 24, 2013. To be sampled pending redevelopment
*2 MW-15 was filled with silt above water level and could not be used
*3 IW-18 was ultilized as a replacement for MW-15 on October 2011
*4 MW-20 was not located (possibly paved over)
*5 MW-21 was not located
*6 MW-22 was filled with silt and could not be sampled
*7 MW-27 was not possitively identified but is assumed.
*8 MW-28 was not located
*9 MW-30 was installed as a replacement for MW-21 on April 6, 2011
*10 MW-31 was installed as a replacement on April 28, 2011 for MW-27 and lies approximately where MW-27 had been shown on previous site maps
*11 MW-32 was installed as a replacement for MW-20 on April 25, 2011
*12 MW-33 was installed as a replacement for MW-22 on April 28, 2011
*13 MW-34 was installed as a replacement for MW-28 on April 26, 2011
*14 MW-35, MW-36, MW-37 were installed on December 16 and 17 2013
All data prior to October 2011 tabulated by ERM.

**TABLE 4-8**
**VOPAK**
**Savannah, Ga.**
**Chemical Concentrations of Volatile Organic Compounds (CVOCs and VOCs) in Ground Water Samples (Modified from ERM, 2010)**

| | Units | Method | Type 3 or 4 RRS | LAW-PZ-8 / LAW-PZ-8R | PAN-MW-9 | PAN-MW-10 | MW-14[+1] | MW-15[+2] | MW-16 | MW-17 / MW-17R | IW-18[+3] | MW-18 / MW-18R | MW-19 | MW-20[+4] | MW-21[+5] | MW-22 / MW-22R[+6] | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27[+7] | MW-28[+8] | MW-29 | MW-30[+9] | MW-31[+10] | MW-32[+11] | MW-33[+12] | MW-34[+13] | MW-35[+14] | MW-36[+14] | MW-37[+14] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tetrachloroethene (PCE)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/L | 624 | 5 | NS | 14,000 | 37 | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/L | 600 | 5 | NS | 9,200 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/L | 8260 | 5 | NR | 3,040 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/L | 8260 | 5 | 50/500 | 8,100 | 10 | 33 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/L | 8021 | 5 | < 1000 | 7,400 | < 1 | < 1 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/L | 8260 | 5 | NS | NS | < 5 | < 5 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/L | 8260 | 5 | NS | 9,100 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | 5 | < 250 | 8,000 | < 1 | < 1 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | 5 | < 1200 | 9,800 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | < 5 | < 5 | 8,700 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | 5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 400 | < 5 | 2,400 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | 5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | 5 | NS | 2,400 | < 5 | < 5 | 5.3 | < 5 | < 5 | NS | NS | < 5 | < 5 | NS | 1,000 | < 5 | 97 | NS | 300 | < 5 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | 5 | 70 J | NS | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | 120 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | 5 | NS | 6,900 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | 7,600 | 760 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | 5 | NS | 3,200 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | 7,000 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | 5 | NS | 6,000 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | 7,200 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | 5 | NS | 1,100 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | 5,700 | NS | NS | NS | 120 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | 5 | NS | 80 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | 2,400 | NS | NS | NS | 420 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | 5 | NS | 1,600 | NS | < 5 | < 5 | < 5 | < 5 | NS | < 5 | NS | NS | 12 | 680 | NS | 1,300 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | 5 | 300 | 1,500 | NS | < 2 | < 2 | < 2 | < 5 | NS | < 5 | NS | NS | < 2 | 2,600 | NS | 580 | NS | < 2 | NS | NS | 1,500 | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | 5 | 240 | 1,900 | NS | < 2 | 12 | < 2 | < 2 | NS | < 2 | NS | NS | < 2 | 3,200 | NS | 1,110 | NS | 6 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | 5 | < 250 | 600 | NS | <5 | < 5 | 9 | < 5 | NS | < 5 | NS | NS | < 5 | 3,400 | NS | 130 | | 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | 5 | 240 | 1,500 | < 2 | < 2 | < 3 | < 2 | < 2 | NS | < 2 | < 2 | NS | < 2 | 62 | < 2 | 2 | < 2 | 2 | 3 | NS | 2,300 | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | 5 | 380 | 510 | NS | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | NS | NS | 6,900 | NS | 130 | NS | 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | 5 | 570 | 540 | NS | < 5 | NS | < 5 | < 5 | NS | < 5 | NS | NS | NS | 4,400 | NS | 110 | NS | 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | 5 | 510 | 460 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | NS | NS | 1,900 | < 2 | 93 | < 5 | < 5 | < 5 | NS | 1,100 | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | 5 | 99 | 440 | NS | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | NS | NS | 3,000 | NS | 57 | NS | < 2 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-10 | ug/L | 8260 | 5 | 240 | 710 | < 5 | NS | < 5 | < 5 | NS | NS | < 5 | < 5 | NS | NS | NS | < 5 | 35 | < 5 | < 5 | < 5 | NS | 500 | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | 5 | 150 | 350 | 0.79 J | NL | NU | 0.57 J | < 1 | 55 | < 1 | < 1 | NL | NL | NU | < 1 | 12 | < 1 | < 1 | 0.86 J | NL | 180 | 0.51 J | < 1 | 7.2 J | 5,200 | 2.2 | NI | NI | NI |
| Jan-12 | ug/L | 8260 | 5 | 130 J | 690 | < 1 | NL | NU | 0.67 J | < 1 | 49 J | < 1 | < 1 | NL | NL | NU | < 1 | 7.5 | < 1 | < 25 | 0.17 J | NL | 200 | 0.18 J | < 1 | 130 | 1,100 | 13 | NI | NI | NI |
| Apr-12 | ug/L | 8260 | 5 | 99 J | 280 | < 1 | NL | NU | < 1 | < 1 | 44 J | < 1 | < 1 | NL | NL | NU | < 1 | 6.8 | 0.27 J | < 25 | 0.26 J | NL | 100 | 0.19 J | < 1 | 210 | 13 | 4.3 | NI | NI | NI |
| Jul-12 | ug/L | 8260 | 5 | 110 J | 37 | < 1 | NL | NU | 0.28 J | 1.3 | 31 J | < 1 | < 1 | NL | NL | NU | < 1 | 6.7 | < 1 | < 5 | < 1 | NL | 110 | 0.45 J | < 1 | 200 | 40 J | 2.3 | NI | NI | NI |
| Oct-12 | ug/L | 8260 | 5 | 83 | 210 | < 1 | NL | NU | < 2 | 16 | 36 J | < 1 | < 1 | NL | NL | NU | < 1 | 6.0 | < 1 | < 50 | < 1 | NL | 71 | < 1 | < 1 | 1700 | 37 | 4.9 | NI | NI | NI |
| Jan-13 | ug/L | 8260 | 5 | 99 | 540 | < 1 | NL | NU | < 1 | < 1 | 43 J | < 1 | < 1 | NL | NL | NU | < 1 | 3.0 J | < 1 | 27 J | 0.36 J | NL | 110 | 0.20 J | < 1 | 2,800 | 5.9 | 8.6 | NI | NI | NI |
| Apr-13 | ug/L | 8260 | 5 | 71 | 240 | < 0.22 | NS | NU | < 0.22 | 4.1 | 42 | < 0.22 | < 0.22 | NL | NL | NU | < 0.22 | 3.5 | < 0.22 | 5.0 J | < 0.22 | NL | 130 | 0.32 J | < 0.22 | 2,800 | 1.2 | 2.7 | NI | NI | NI |
| Jul-13 | ug/L | 8260 | 5 | 30 | 55 | < 0.16 | NS | NU | < 0.16 | < 0.16 | 27 | < 0.16 | < 0.16 | NL | NL | NU | < 0.16 | 5.3 | < 0.16 | < 1.6 | < 0.16 | NL | 120 | < 0.16 | < 0.16 | 2,200 | 15 | 3.0 | NI | NI | NI |
| Oct-13 | ug/L | 8260 | 5 | 44 | 29 | < 0.16 | < 0.16 | NU | 0.58 J | < 0.16 | 29 | < 0.16 | < 0.16 | NL | NL | NU | < 0.16 | 3.3 | < 0.16 | < 1.6 | < 0.16 | NL | 140 | < 0.16 | NA | 6,200 | 1.2 | 6.1 | NI | NI | NI |
| Jan-14 | ug/L | 8260 | 5 | 38 | 17 | < 0.16 | < 0.16 | NU | < 0.16 | < 0.16 | 19 | < 0.16 | < 0.16 | NL | NL | NU | < 0.16 | 2.6 | < 0.16 | < 1.6 | < 0.16 | NL | 330 | < 0.16 | < 0.16 | 6,500 | <1.6 | 2.4 | < 0.16 | < 0.16 | 30.0 |
| **Trichloroethene (TCE)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/L | 624 | 5 | NS | 350 | < 5 | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/L | 600 | 5 | NS | 430 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/L | 8260 | 5 | NR | < 2500 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/L | 8260 | 5 | NR | NR | NR | NR | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/L | 8021 | 5 | NR | NR | NR | NR | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/L | 8260 | 5 | NS | NS | < 5 | < 5 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/L | 8260 | 5 | NS | < 1000 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | 5 | < 250 | 360 | < 1 | < 1 | NS | < 1 | < 1 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | 5 | < 1200 | 260 J | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | < 5 | < 5 | 900 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | 5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 95 | < 5 | 100 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | 5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | 5 | NS | < 500 | < 5 | < 5 | 14 | < 5 | < 5 | NS | NS | < 5 | < 5 | NS | 480 | < 5 | 51 | NS | 14 | < 5 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | 5 | 18 J | NS | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | 1.8 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | 5 | NS | 440 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | 700 | 2300 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | 5 | NS | 270 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | 71 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | 5 | NS | 360 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | < 250 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | 5 | NS | 320 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | 220 | NS | NS | NS | 8 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | 5 | NS | 9 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | 47 | NS | NS | NS | 22 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | 5 | NS | 480 | NS | < 5 | < 5 | < 5 | < 5 | NS | < 5 | NS | NS | < 5 | 71 | NS | 180 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | 5 | < 100 | 300 | NS | < 2 | < 2 | 12 | < 5 | NS | < 5 | NS | NS | < 5 | < 130 | NS | 150 | NS | 2 | NS | NS | 340 | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | 5 | 72 | 640 | NS | < 2 | 12 | 24 | < 2 | NS | < 2 | NS | NS | < 2 | 60 | NS | 680 | NS | 4 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | 5 | < 250 | 370 | NS | < 5 | < 5 | 71 | < 5 | NS | < 5 | NS | NS | < 5 | < 130 | NS | 200 | NS | < 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | 5 | < 100 | 450 | < 2 | < 2 | 4 | < 2 | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | < 2 | 37 | < 2 | < 2 | 2 | NS | 320 | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | 5 | 34 | 190 | NS | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | NS | NS | 89 | NS | 24 | NS | < 2 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | 5 | 52 | 150 | NS | < 5 | NS | < 5 | < 5 | NS | < 5 | NS | NS | NS | 100 | NS | 25 | NS | < 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | 5 | < 250 | 150 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | NS | NS | 88 | < 2 | 22 | < 2 | < 5 | < 5 | NS | 320 | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | 5 | 34 | 150 | NS | < 2 | NS | 4.1 | < 2 | NS | < 2 | NS | NS | NS | 88 | NS | 20 | NS | < 2 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-10 | ug/L | 8260 | 5 | 49 | 140 | < 5 | NS | < 5 | < 5 | NS | NS | < 5 | < 5 | NS | NS | NS | < 5 | 10 | < 5 | < 5 | < 5 | NS | 300 | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | 38 | 28 J | 1,100 | 2.6 | NL | NU | 0.66 J | < 1 | 58 | < 1 | < 1 | NL | NL | NU | < 1 | 5.8 | < 1 | 0.89 J | 1.6 J | NL | 72 | 0.55 J | < 1 | 11 | 3,200 | 1.7 | NI | NI | NI |
| Jan-12 | ug/L | 8260 | 38 | < 500 | 770 | 0.21 J | NL | NU | 0.94 J | < 1 | 43 J | < 1 | < 1 | NL | NL | NU | < 1 | 3.9 | < 1 | 5.0 J | 0.42 J | NL | 77 | 0.46 J | < 1 | 61 | 190 | 4.4 | NI | NI | NI |
| Apr-12 | ug/L | 8260 | 38 | < 500 | 1,300 | < 1 | NL | NU | 0.94 J | 0.13 J | 46 J | < 1 | < 1 | NL | NL | NU | < 1 | 4.7 | < 1 | 5.5 J | 0.40 J | NL | 62 | 0.43 J | < 1 | 100 | 11 | 2.2 | NI | NI | NI |
| Jul-12 | ug/L | 8260 | 38 | < 500 | 1,200 | < 1 | NL | NU | 0.63 J | 1.2 | 33 J | < 1 | < 1 | NL | NL | NU | < 1 | 3.6 | < 1 | < 5 | 0.26 J | NL | 54 | 0.45 J | < 1 | 140 | 35 J | 1.3 | NI | NI | NI |
| Oct-12 | ug/L | 8260 | 38 | < 500 | 1,200 | < 1 | NL | NU | 0.37 J | 5.2 | 37 J | < 1 | < 1 | NL | NL | NU | < 1 | 3.4 J | < 1 | < 50 | 0.33 J | NL | 44 | 0.40 J | < 1 | 470 | 35 | 1.8 | NI | NI | NI |
| Jan-13 | ug/L | 8260 | 38 | < 500 | 480 | < 1 | NL | NU | < 1 | < 1 | 44 J | < 1 | < 1 | NL | NL | NU | < 1 | 2.1 J | < 1 | 21 J | 0.88 J | NL | 41 | 0.38 J | < 1 | 530 | 9.9 | 2.5 | NI | NI | NI |
| Apr-13 | ug/L | 8260 | 38 | 12 | 500 | < 0.20 | NS | NU | 0.60 J | 1.3 | 37 | < 0.20 | < 0.20 | NL | NL | NU | < 0.20 | 2.8 | < 0.20 | 3.2 J | 0.33 J | NL | 76 | 0.32 J | < 0.20 | 520 | 4.7 | 0.91 J | NI | NI | NI |
| Jul-13 | ug/L | 8260 | 38 | 5.6 J | 790 | < 0.19 | NS | NU | < 0.19 | < 0.19 | 31 | < 0.19 | < 0.19 | NL | NL | NU | < 0.19 | 5.4 | < 0.19 | < 1.9 | 0.80 J | NL | 69 | < 0.19 | < 0.19 | 570 | 5.1 J | 1.0 J | NI | NI | NI |
| Oct-13 | ug/L | 8260 | 38 | 8.5 J | 440 | < 0.19 | < 0.19 | NU | 1.10 | < 0.19 | 26 | < 0.19 | < 0.19 | NL | NL | NU | < 0.19 | 2.2 | < 0.19 | < 1.9 | < 0.19 | NL | 66 | < 0.19 | NA | 1300 | 4.8 | 3.1 | NI | NI | NI |
| Jan-14 | ug/L | 8260 | 38 | <1.9 | 300 | < 0.19 | < 0.19 | NU | < 0.19 | < 0.19 | 28 | < 0.19 | < 0.19 | NL | NL | NU | < 0.19 | 4.4 | < 0.19 | < 1.9 | < 0.19 | NL | 110 | < 0.19 | < 0.19 | 1300 | < 1.9 | < 0.19 | < 0.19 | < 0.19 | 16 |

**TABLE 4-8**
**VOPAK**
**Savannah, Ga.**
**Chemical Concentrations of Volatile Organic Compounds (CVOCs and VOCs) in Ground Water Samples (Modified from ERM, 2010)**

| | Units | Method | Type 3 or 4 RRS | LAW-PZ-8 / LAW-PZ-8R | PAN-MW-9 | PAN-MW-10 | MW-14[+1] | MW-15[+2] | MW-16 | MW-17 / MW-17R | IW-18[+3] | MW-18 / MW-18R | MW-19 | MW-20[+4] | MW-21[+5] | MW-22 / MW-22R[+6] | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27[+7] | MW-28[+8] | MW-29 | MW-30[+9] | MW-31[+10] | MW-32[+11] | MW-33[+12] | MW-34[+13] | MW-35[+14] | MW-36[+14] | MW-37[+14] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **cis-1,2-Dichloroethene** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/L | 624 | 1,020 | NS | < 5 | < 5 | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/L | 600 | 1,020 | NS | < 5 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/L | 8260 | 1,020 | NR | < 2,500 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/L | 8260 | 1,020 | NR | NR | NR | NR | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/L | 8021 | 1,020 | NR | NR | NR | NR | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/L | 8260 | 1,020 | NS | NS | < 2 | < 2 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/L | 8260 | 1,020 | NS | < 400 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | 1,020 | **1,800** | 130 | < 1 | < 1 | NS | 110 | < 1 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | 1,020 | **3,900** | 100J | < 5 | < 5 | < 5 | 41 | < 5 | NS | < 5 | < 5 | < 5 | < 5 | **3,100** | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | 1,020 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 240 | < 5 | **1,100** | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | 1,020 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | 1,020 | NS | < 500 | < 5 | < 5 | < 5 | 33 | < 5 | NS | NS | < 5 | < 5 | NS | 930 | < 5 | 100 | NS | 180 | < 5 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | 1,020 | 350 | NS | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | < 1 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | 1,020 | NS | 300 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | **2,300** | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | 1,020 | NS | 170 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | 310 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | 1,020 | NS | < 250 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | 610 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | 1,020 | NS | 220 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | 840 | NS | NS | NS | 120 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | 1,020 | NS | 5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | 240 | NS | NS | NS | 210 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | 1,020 | NS | 550 | NS | < 5 | < 5 | 36 | < 5 | NS | < 5 | NS | NS | < 5 | **3,300** | NS | 500 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | 1,020 | **31,000** | 990 | NS | < 2 | < 2 | 120 | < 5 | NS | < 5 | NS | NS | < 2 | 490 | NS | 590 | NS | **2,800** | NS | NS | **1,500** | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | 1,020 | **12,000** | 600 | NS | < 2 | 4 | 120 | < 2 | NS | < 2 | NS | NS | < 2 | 480 | NS | 990 | NS | **5,100** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | 1,020 | **16,000** | 680 | NS | < 5 | < 5 | 320 | < 5 | NS | < 5 | NS | NS | < 5 | 730 | NS | 770 | NS | **2,600** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | 1,020 | **18,000** | 880 | < 2 | < 2 | 3 | 260 | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | < 2 | 820 | < 2 | 240 | 350 | NS | **1,700** | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | 1,020 | **6,900** | 590 | NS | < 2 | NS | 61 | < 2 | NS | < 2 | NS | NS | NS | 930 | NS | 82 | NS | 410 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | 1,020 | **4,600** | 500 | NS | < 5 | NS | 60 | < 5 | NS | < 5 | NS | NS | NS | **2,100** | NS | 340 | NS | 14 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | 1,020 | < 250 | 780 | < 5 | < 5 | < 5 | 78 | < 5 | NS | < 5 | < 5 | NS | NS | **1,700** | < 5 | 240 | < 5 | 200 | 40 | NS | **2,100** | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | 1,020 | **4,500** | 730 | NS | < 2 | NS | 78 | < 2 | NS | < 2 | NS | NS | NS | 1,000 | NS | 120 | NS | 150 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-10 | ug/L | 8260 | 1,020 | **5,100** | 530 | < 5 | NS | < 5 | 89 | NS | NS | < 5 | < 5 | NS | NS | NS | < 5 | 150 | < 5 | 93 | < 5 | NS | **3,200** | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | 1,022 | **22,000** | 780 | 1.3 | NL | NU | 160 | 0.20 J | **4,400** | < 1 | < 1 | NL | NL | NU | < 1 | 180 | < 1 | 43 | 8.3 | NL | **2,300** | 13 | < 1 | **1,500** | **16,000** | 44 | NI | NI | NI |
| Jan-12 | ug/L | 8260 | 1,022 | **17,000** | 820 | 3.7 | NL | NU | 130 | < 1 | **4,800** | < 1 | < 1 | NL | NL | NU | < 1 | 160 | 0.21 J | 390 | 1.8 | NL | **2,500** | 13 | < 1 | **2,100** | **4,100** | 80 | NI | NI | NI |
| Apr-12 | ug/L | 8260 | 1,022 | **17,000** | **1,100** | 0.71 J | NL | NU | 140 | 2.8 | **4,500** | < 1 | 0.22J | NL | NL | NU | < 1 | 230 | 0.57 J | 350 | 1.7 | NL | **1,900** | 9.4 | < 1 | **2,000** | **1,800** | 64 | NI | NI | NI |
| Jul-12 | ug/L | 8260 | 1,022 | **16,000** | **1,300** | 0.29 J | NL | NU | 87 | 9.2 | **4,500** | < 1 | < 1 | NL | NL | NU | < 1 | 220 | < 1 | 43 | 1.4 | NL | **1,900** | 7.7 | < 1 | **1,100** | **3,000** | 35 | NI | NI | NI |
| Oct-12 | ug/L | 8260 | 1,022 | **8,000** | **1,800** | 1.4 | NL | NU | 200 | 13 | **5,200** | < 1 | < 1 | NL | NL | NU | < 1 | 320 | < 1 | 210 | 1.1 | NL | **1,600** | 11 | < 1 | **1,700** | **2,300** | 45 | NI | NI | NI |
| Jan-13 | ug/L | 8260 | 1,022 | **13,000** | **1,200** | 1.2 | NL | NU | 120 | < 1 | **6,000** | < 1 | < 1 | NL | NL | NU | < 1 | 410 | < 1 | **1,500** | 2.1 | NL | **1,300** | 9.4 | < 1 | 940 | 390 | 43 | NI | NI | NI |
| Apr-13 | ug/L | 8260 | 1,022 | **9,100** | **1,400** | 0.82 J | NS | NU | 140 | 1.6 | **6,000** | < 0.13 | 0.14 J | NL | NL | NU | < 0.13 | 540 | < 0.13 | 340 | 1.0 J | NL | **2,500** | 7.8 | < 0.13 | 980 | 380 | 19 | NI | NI | NI |
| Jul-13 | ug/L | 8260 | 1,022 | **11,000** | **1,200** | < 0.21 | NS | NU | 320 | < 0.21 | **5,900** | < 0.21 | < 0.21 | NL | NL | NU | < 0.21 | 800 | < 0.21 | 19 | 2.6 | NL | **2,800** | 11 | < 0.21 | 750 | 500 | 24 | NI | NI | NI |
| Oct-13 | ug/L | 8261 | 1,022 | **8,500** | **2,500** | 0.76 | < 0.21 | NU | 110 | < 0.21 | **6,400** | < 0.21 | < 0.21 | NL | NL | NU | < 0.21 | 450 | < 0.21 | 150 | < 0.21 | NL | **6,100** | 6.2 | NA | **1,600** | 800 | 36 | NI | NI | NI |
| Jan-14 | ug/L | 8262 | 1,022 | **7,200** | **2,100** | 1.3 | < 0.21 | NU | 170 | < 0.21 | **5,300** | < 0.21 | < 0.21 | NL | NL | NU | < 0.21 | 570 | < 0.21 | 68 | 2.1 | NL | **5,900** | 5.6 | < 0.21 | **1,600** | 340 | 14 | < 0.21 | < 0.21 | 860 |
| **Vinyl Chloride** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb-91 | ug/L | 624 | 2 | NS | < 30 | < 30 | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-91 | ug/L | 600 | 2 | NS | < 30 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-96 | ug/L | 8260 | 2 | NR | < 2500 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-97 | ug/L | 8260 | 2 | **350/< 500** | < 500 | < 5 | < 5 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-98 | ug/L | 8021 | 2 | < 1,000 | < 250 | < 1 | < 1 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-99 | ug/L | 8260 | 2 | NS | NS | < 2 | < 2 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-99 | ug/L | 8260 | 2 | NS | < 400 | NS | NS | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | 2 | **890** | < 100 | < 1 | < 1 | NS | **2.2** | < 1 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | 2 | **670** | < 200 | < 2 | < 2 | < 2 | < 2 | < 2 | NS | < 2 | < 2 | < 2 | < 2 | **380** | < 2 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | 2 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | **50** | < 10 | **210** | < 2 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | 2 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | 2 | NS | < 200 | < 2 | < 2 | NS | < 2 | < 2 | NS | NS | < 2 | < 2 | NS | < 100 | < 2 | **22** | NS | **38** | < 2 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | 2 | **120** | NS | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | < 1 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | 2 | NS | **35** | NS | NS | NS | NS | < 2 | NS | < 2 | NS | NS | NS | **210** | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | 2 | NS | **14** | NS | NS | NS | NS | < 2 | NS | < 2 | NS | NS | NS | **36** | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | 2 | NS | < 100 | NS | NS | NS | NS | < 2 | NS | < 2 | NS | NS | NS | < 100 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | 2 | NS | < 100 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | < 100 | NS | NS | NS | **28** | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | 2 | NS | < 2 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | **37** | NS | NS | NS | **47** | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | 2 | NS | < 40 | NS | < 2 | < 2 | < 2 | < 2 | NS | < 2 | NS | NS | < 2 | **140** | NS | **49** | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | 2 | **1,700** | < 40 | NS | < 2 | < 2 | **4** | < 2 | NS | < 2 | NS | NS | < 2 | **89** | NS | **33** | NS | **330** | NS | NS | **24** | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | 2 | **630** | **23** | NS | < 2 | < 2 | **8** | < 2 | NS | < 2 | NS | NS | < 2 | **100** | NS | **68** | NS | **560** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | 2 | **1,200** | < 40 | NS | < 2 | < 2 | **25** | < 2 | NS | < 2 | NS | NS | < 2 | **100** | NS | **17** | NS | **580** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | 2 | **1,200** | < 40 | < 2 | < 2 | < 2 | **63** | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | < 2 | **20** | < 2 | **240** | **5** | NS | **64** | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | 2 | **660** | **18** | NS | < 2 | NS | **53** | < 2 | NS | < 2 | NS | NS | NS | **270** | NS | **9** | NS | **83** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | 2 | **360** | **25** | NS | < 2 | NS | **49** | < 2 | NS | < 2 | NS | NS | NS | **300** | NS | **12** | NS | **19** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | 2 | **560** | < 40 | < 2 | < 2 | < 2 | **82** | < 2 | NS | < 2 | < 2 | NS | NS | **280** | < 2 | **18** | < 5 | **76** | **22** | NS | **74** | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | 2 | **470** | **49** | NS | < 2 | NS | **69** | < 2 | NS | < 2 | NS | NS | NS | **220** | NS | **47** | NS | **62** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-10 | ug/L | 8260 | 2 | **480** | **93** | < 2 | NS | **17** | **83** | NS | NS | < 2 | < 2 | NS | NS | NS | < 2 | < 2 | < 2 | **48** | **92** | NS | **150** | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | 3 | **1,500** | **62** | < 1 | NL | NU | **77** | < 1 | **220** | < 1 | < 1 | NL | NL | NU | < 1 | **25** | < 1 | **34** | **200** | NL | **220** | 2.9 | < 1 | **35** | **840** | NI | NI | NI | NI |
| Jan-12 | ug/L | 8260 | 3 | **1,600** | **55** | 0.20 J | NL | NU | **85** | < 1 | **230** | < 1 | < 1 | NL | NL | NU | < 1 | **16** | < 1 | **130** | **19** | NL | **280** | **3.1** | < 1 | **53** | **370** | NI | NI | NI | NI |
| Apr-12 | ug/L | 8260 | 3 | **1,800** | **45** | < 1 | NL | NU | **200** | 0.19 J | **210** | < 1 | < 1 | NL | NL | NU | < 1 | **7.4** | < 1 | **140** | **15** | NL | **200** | 2.6 | < 1 | **54** | **390** | NI | NI | NI | NI |
| Jul-12 | ug/L | 8260 | 3 | **1,200** | **65** | < 1 | NL | NU | **48** | < 1 | **160** | < 1 | < 1 | NL | NL | NU | < 1 | **9.2** | < 1 | **40** | **21** | NL | **230** | 2.4 | < 1 | **40** | **290** | NI | NI | NI | NI |
| Oct-12 | ug/L | 8260 | 3 | **870** | **110** | < 1 | NL | NU | **94** | < 1 | **320** | < 1 | < 1 | NL | NL | NU | < 1 | **54.0** | < 1 | **63** | **16** | NL | **110** | 3.6 | < 1 | **110** | **330** | NI | NI | NI | NI |
| Jan-13 | ug/L | 8260 | 3 | **1,100** | **69** | < 1 | NL | NU | **78** | < 1 | **310** | < 1 | < 1 | NL | NL | NU | < 1 | **71.0** | < 1 | **220** | **20** | NL | **140** | **3.1** | < 1 | **93** | **130** | NI | NI | NI | NI |
| Apr-13 | ug/L | 8260 | 3 | **960** | **120** | < 0.30 | NS | NU | **85** | < 0.30 | **410** | < 0.30 | < 0.30 | NL | NL | NU | < 0.30 | **64.0** | < 0.30 | **94** | **6.5** | NL | **490** | **4.5** | < 0.30 | **120** | **130** | NI | NI | NI | NI |
| Jul-13 | ug/L | 8260 | 3 | **990** | **88** | < 0.19 | NS | NU | **100** | < 0.19 | **770** | < 0.19 | < 0.19 | NL | NL | NU | < 0.19 | **140** | < 0.19 | **12** | **18** | NL | **460** | < 0.19 | < 0.19 | **96** | **220** | NI | NI | NI | NI |
| Oct-13 | ug/L | 8260 | 3 | **830** | **76** | < 0.19 | < 0.19 | NU | **86** | < 0.19 | **670** | < 0.19 | < 0.19 | NL | NL | NU | < 0.19 | **43** | < 0.19 | **53** | 2.9 | NL | **760** | 2.5 | NA | **220** | **480** | NI | NI | NI | NI |
| Jan-14 | ug/L | 8260 | 3 | **980** | **190** | < 0.19 | < 0.19 | NU | **180** | < 0.19 | **1900** | < 0.19 | < 0.19 | NL | NL | NU | < 0.19 | < 0.19 | < 0.19 | < 1.9 | **13** | NL | **790** | < 0.19 | < 0.19 | **230** | **300** | < 0.19 | < 0.19 | < 0.19 | **130** |

**TABLE 4-8**
**VOPAK**
**Savannah, Ga.**
**Chemical Concentrations of Volatile Organic Compounds (CVOCs and VOCs) in Ground Water Samples (Modified from ERM, 2010)**

| | Units | Method | Type 3 or 4 RRS | LAW-PZ-8 / LAW-PZ-8R | PAN-MW-9 | PAN-MW-10 | MW-14[+1] | MW-15[+2] | MW-16 | MW-17 / MW-17R | IW-18[+3] | MW-18 / MW-18R | MW-19 | MW-20[+4] | MW-21[+5] | MW-22 / MW-22R[+6] | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27[+7] | MW-28[+8] | MW-29 | MW-30[+9] | MW-31[+10] | MW-32[+11] | MW-33[+12] | MW-34[+13] | MW-35[+14] | MW-36[+14] | MW-37[+14] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Benzene** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/L | 8260 | 15 | < 1000 | < 250 | < 1 | < 1 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | 15 | < 250 | < 100 | < 1 | < 1 | NS | < 1 | < 1 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | 15 | **69J** | < 500 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | < 5 | < 5 | < 500 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | 15 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 12 | < 5 | < 100 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | 15 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | 15 | NS | < 500 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | NS | < 5 | NS | < 250 | < 5 | **52** | NS | NS | < 5 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | 15 | **42 J** | NS | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | < 1 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | 15 | NS | < 50 | NS | NS | NS | NS | < 10 | NS | < 10 | NS | NS | NS | < 10 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | 15 | NS | < 10 | NS | NS | NS | NS | < 10 | NS | < 10 | NS | NS | NS | < 10 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | 15 | NS | < 500 | NS | NS | NS | NS | < 10 | NS | < 10 | NS | NS | NS | < 500 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | 15 | NS | < 100 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | < 100 | NS | NS | NS | **17** | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | 15 | NS | < 5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | **35** | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | 15 | NS | < 200 | NS | < 10 | < 10 | < 10 | < 10 | NS | < 10 | NS | NS | < 10 | < 250 | NS | 11 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | 15 | < 190 | < 200 | NS | < 2 | < 2 | < 2 | < 10 | NS | < 10 | NS | NS | < 2 | < 250 | NS | < 20 | NS | **16** | NS | NS | 2 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | 15 | **47** | < 2 | NS | < 2 | < 2 | < 2 | < 2 | NS | < 2 | NS | NS | < 2 | < 2 | NS | 13 | NS | **20** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | 15 | < 500 | < 200 | NS | < 10 | < 10 | < 10 | < 10 | NS | < 10 | NS | NS | < 2 | < 10 | < 250 | NS | < 14 | NS | **17** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | 15 | **310** | < 40 | < 2 | < 2 | < 2 | < 2 | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | < 2 | 12 | < 2 | 9 | < 2 | NS | 3 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | 15 | **450** | < 2 | NS | NS | NS | < 2 | < 2 | NS | < 2 | NS | NS | NS | 2 | NS | **16** | NS | 12 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | 15 | **290** | < 5 | NS | < 5 | NS | < 5 | < 5 | NS | < 5 | NS | NS | NS | < 5 | NS | **15** | NS | < 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | 15 | **320** | < 100 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | NS | NS | < 5 | < 5 | 12 | < 5 | 14 | < 5 | NS | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | 15 | **390** | < 10 | NS | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | NS | NS | 4.1 | NS | 10 | NS | 4.4 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | 9 | **1,600** | < 50 | < 1 | NL | NU | 0.52 J | 0.39 J | **36** | < 1 | < 1 | NL | NL | NU | < 1 | **10** | < 1 | 7.2 | 0.63 J | NL | < 20 | 0.55 J | < 1 | < 10 | < 200 | 1.6 | NI | NI | NI | N |
| Jan-12 | ug/L | 8260 | 9 | **1,700** | < 20 | 0.28 J | NL | NU | 0.44 J | 0.44 J | **29 J** | < 1 | < 1 | NL | NL | NU | < 1 | 8.2 | < 1 | **29** | < 1 | NL | < 20 | 0.47 J | < 1 | < 20 | < 50 | 3.6 | NI | NI | NI | N |
| Apr-12 | ug/L | 8260 | 9 | **2,300** | < 20 | < 1 | NL | NU | 0.74 J | 0.48 J | **25 J** | < 1 | < 1 | NL | NL | NU | < 1 | **11** | < 1 | **22 J** | < 1 | NL | 6.3 J | 0.44 J | < 1 | < 20 | **12** | 2.3 | NI | NI | NI | N |
| Jul-12 | ug/L | 8260 | 9 | **2,000** | < 25 | < 1 | NL | NU | 0.41 J | 0.29 J | **21 J** | < 1 | < 1 | NL | NL | NU | < 1 | 7.6 | < 1 | **21** | < 1 | NL | 6.8 J | 0.43 J | < 1 | < 10 | < 50 | 1.3 | NI | NI | NI | N |
| Oct-12 | ug/L | 8260 | 9 | **1,300** | < 25 | < 1 | NL | NU | < 2 | < 1 | **24 J** | < 1 | < 1 | NL | NL | NU | < 1 | 8.1 | < 1 | **35 J** | < 1 | NL | < 20 | 0.54 J | < 1 | < 10 | < 20 | 1.8 | NI | NI | NI | N |
| Jan-13 | ug/L | 8260 | 9 | **2,000** | < 25 | < 1 | NL | NU | 0.27 J | < 1 | **25 J** | < 1 | < 1 | NL | NL | NU | < 1 | 6.9 | < 1 | **64** | < 1 | NL | 6.0 J | 0.54 J | < 1 | < 20 | 1.7 J | 1.9 | NI | NI | NI | N |
| Apr-13 | ug/L | 8260 | 9 | **1,400** | 2.8 J | < 0.18 | NS | NU | 0.42 J | 0.18 J | **26** | < 0.18 | < 0.18 | NL | NL | NU | < 0.18 | 6.2 | < 0.18 | **56** | < 0.18 | NL | **11** | 0.85 J | < 0.18 | 0.94 J | 1.3 | 0.76 J | NI | NI | NI | N |
| Jul-13 | ug/L | 8260 | 9 | **1,900** | < 1.6 | < 0.16 | NS | NU | < 0.16 | < 0.16 | **30** | < 0.16 | < 0.16 | NL | NL | NU | < 0.16 | 8.2 | < 0.16 | **75** | < 0.16 | NL | **15** | 1.8 | < 0.16 | < 1.6 | < 1.6 | 1.1 | NI | NI | NI | N |
| Oct-13 | ug/L | 8260 | 9 | **1,500** | 1 | < 0.16 | < 0.16 | NU | 0.83 | < 0.16 | **26** | < 0.16 | < 0.16 | NL | NL | NU | < 0.16 | 6.0 | < 0.16 | **33** | < 0.16 | NL | **20** | < 0.16 | NA | < 1.6 | 1.8 | 1.3 | NI | NI | NI | N |
| Jan-14 | ug/L | 8260 | 9 | **1,200** | < 1.6 | < 0.16 | < 0.16 | NU | 1.50 | < 0.16 | **60** | < 0.16 | < 0.16 | NL | NL | NU | < 0.16 | 6.1 | < 0.16 | **110** | < 0.16 | NL | **23** | < 0.16 | < 0.16 | < 1.6 | < 1.6 | < 0.16 | < 0.16 | < 0.16 | **14** | |
| **Ethylbenzene** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/L | 8260 | 3,750 | **4,300** | 2,400 | < 1 | 2.9 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | 3,750 | **5,100** | **3,900** | < 1 | < 1 | NS | < 1 | < 1 | NS | NI | NI | NI | NI | IN | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | 3,750 | **5,700** | 3,700 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | < 5 | < 5 | 600 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | 3,750 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 12 | < 5 | < 100 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | 3,750 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | 3,750 | NS | 1,100 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | NS | < 5 | NS | < 250 | < 5 | < 10 | NS | NS | < 5 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | 3,750 | 3,700 | NS | NS | NS | NS | NS | NS | NS | 2 | NS | NS | 4.2 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | 3,750 | NS | 3,100 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | 2,300 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | 3,750 | NS | **8,400** | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | 14 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | 3,750 | NS | 2,200 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | < 250 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | 3,750 | NS | **6,000** | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | < 100 | NS | NS | NS | < 2 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | 3,750 | NS | 60 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | < 5 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | 3,750 | NS | 730 | NS | < 5 | < 5 | < 5 | < 5 | NS | < 5 | NS | NS | < 5 | 150 | NS | 5 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | 3,750 | **6,100** | 990 | NS | < 2 | < 2 | < 2 | < 5 | NS | < 5 | NS | NS | < 2 | < 130 | NS | < 20 | NS | 380 | NS | NS | 67 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | 3,750 | 3,000 | 1,800 | NS | < 2 | < 2 | < 2 | 7 | NS | < 2 | NS | NS | < 2 | 20 | NS | 10 | NS | 1,500 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | 3,750 | **5,000** | **4,500** | NS | < 5 | < 5 | < 5 | < 5 | NS | < 5 | NS | NS | < 5 | < 130 | NS | < 5 | NS | 1,100 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | 3,750 | **4,400** | 1,900 | < 2 | < 2 | < 2 | < 2 | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | < 2 | 2 | < 2 | 71 | < 2 | NS | 63 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | 3,750 | **6,500** | **8,800** | NS | < 2 | NS | 6 | 4 | NS | 2 | NS | NS | NS | 10 | NS | < 2 | NS | 260 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | 3,750 | **4,900** | **3,900** | NS | < 5 | NS | < 5 | < 5 | NS | < 5 | NS | NS | NS | 7 | NS | < 5 | NS | 23 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | 3,750 | **3,800** | 2,400 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | NS | NS | 11 | < 5 | | < 5 | 310 | < 5 | NS | 35 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | 3,750 | **4,100** | 2,300 | NS | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | NS | NS | 9 | NS | < 2 | NS | 63 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | 700 | **8,000** | **1,900** | 3.7 | NL | NU | 0.30 J | 0.55 J | 38 | < 1 | < 1 | NL | NL | NU | < 1 | 1.4 J | 0.72 J | 35 | 0.29 J | NL | **1,300** | < 1 | < 1 | < 1 | 31 | 370 | < 1 | NI | NI | N |
| Jan-12 | ug/L | 8260 | 700 | **7,500** | **2,000** | 1.2 | NL | NU | 0.12 J | 1.5 | 33 J | < 1 | < 1 | NL | NL | NU | < 1 | 0.98 J | < 1 | 650 | < 1 | NL | **1,100** | < 1 | < 1 | < 1 | 45 | 94 | < 1 | NI | NI | N |
| Apr-12 | ug/L | 8260 | 700 | **7,500** | **1,900** | < 1 | NL | NU | 1.7 | 0.70 J | 24 J | < 1 | 1.7 | NL | NL | NU | < 1 | 16 | 3.2 | 610 | < 1 | NL | **950** | < 1 | 0.33 J | 28 | 46 | < 1 | NI | NI | N |
| Jul-12 | ug/L | 8260 | 700 | **7,100** | **890** | < 1 | NL | NU | 0.23 J | 0.62 J | 29 J | < 1 | < 1 | NL | NL | NU | < 1 | < 2 | < 1 | 270 | < 1 | NL | 510 | < 1 | < 1 | 17 | 34 J | < 1 | NI | NI | N |
| Oct-12 | ug/L | 8260 | 700 | **7,300** | **1,800** | < 1 | NL | NU | 0.52 J | 1.4 | 31 J | < 1 | < 1 | NL | NL | NU | < 1 | 3.4 J | < 1 | 390 | < 1 | NL | 200 | < 1 | < 1 | 54 | 28 | < 1 | NI | NI | N |
| Jan-13 | ug/L | 8260 | 700 | **7,500** | **1,100** | < 1 | NL | NU | 0.49 J | 0.84 J | 40 J | < 1 | < 1 | NL | NL | NU | < 1 | 4.0 J | < 1 | **2,000** | < 1 | NL | **1,300** | < 1 | < 1 | 61 | 7.3 | < 1 | NI | NI | N |
| Apr-13 | ug/L | 8260 | 700 | **7,200** | **1,000** | <0.097 | NS | NU | 2.1 | 1.2 | 49 | <0.097 | 0.21 J | NL | NL | NU | 0.23 J | 4.4 | < 0.097 | 650 | 0.35 J | NL | **750** | < 0.097 | < 0.097 | 75 | 5.3 | < 0.097 | NI | NI | N |
| Jul-13 | ug/L | 8260 | 700 | **7,600** | **760** | <0.19 | NS | NU | <0.19 | 1.5 | 110 | <0.19 | < 0.19 | NL | NL | NU | < 0.19 | 11 | < 0.19 | 450 | < 0.19 | NL | **800** | < 0.19 | < 0.19 | 66 | 8.9 J | < 0.19 | NI | NI | N |
| Oct-13 | ug/L | 8260 | 700 | **6,800** | **1,000** | <0.19 | <0.19 | NU | 1.2 | 0.83 J | 56 | <0.19 | < 0.19 | NL | NL | NU | < 0.19 | 0.79 J | < 0.19 | 160 | < 0.19 | NL | **1,200** | < 0.19 | NA | 160 | 9.0 | < 0.19 | NI | NI | N |
| Jan-14 | ug/L | 8260 | 700 | **4,000** | **1,100** | <0.19 | <0.19 | NU | <0.19 | <0.19 | 100 | <0.19 | <0.19 | NL | NL | NU | <0.19 | <0.19 | <0.19 | 200 | <0.19 | NL | **3,100** | <0.19 | < 0.19 | 180 | 16.0 | < 0.19 | < 0.19 | < 0.19 | < 0.19 | |

**TABLE 4-8**
**VOPAK**
**Savannah, Ga.**
**Chemical Concentrations of Volatile Organic Compounds (CVOCs and VOCs) in Ground Water Samples (Modified from ERM, 2010)**

| | Units | Method | Type 3 or 4 RRS | LAW-PZ-8 / LAW-PZ-8R | PAN-MW-9 | PAN-MW-10 | MW-14*1 | MW-15*2 | MW-16 | MW-17 / MW-17R | IW-18*3 | MW-18 / MW-18R | MW-19 | MW-20*4 | MW-21*5 | MW-22 / MW-22R*6 | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27*7 | MW-28*8 | MW-29 | MW-30*9 | MW-31*10 | MW-32*11 | MW-33*12 | MW-34*13 | MW-35*14 | MW-36*14 | MW-37*14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Toluene** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/L | 8260 | 2,030 | < 1000 | < 250 | < 1 | < 1 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | 2,030 | < 250 | < 100 | < 1 | < 1 | NS | < 1 | < 1 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | 2,030 | 220J | < 500 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | < 5 | < 5 | < 500 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | 2,030 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 12 | < 5 | < 100 | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | 2,030 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | 2,030 | NS | < 500 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | NS | NS | < 5 | NS | < 250 | < 5 | < 10 | NS | NS | < 5 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | 2,030 | < 100 | NS | NS | NS | NS | NS | NS | NS | < 1 | NS | NS | < 1 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | 2,030 | NS | < 25 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | < 5 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | 2,030 | NS | < 5 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | < 5 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | 2,030 | NS | < 250 | NS | NS | NS | NS | 5 | NS | < 5 | NS | NS | NS | < 250 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | 2,030 | NS | < 100 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 2 | < 100 | NS | NS | NS | < 2 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | 2,030 | NS | < 5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | < 5 | NS | NS | NS | < 5 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | 2,030 | NS | < 100 | NS | < 5 | < 5 | < 5 | < 5 | NS | < 5 | NS | NS | < 5 | < 130 | NS | < 5 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | 2,030 | 1,200 | < 100 | NS | < 2 | < 2 | < 2 | 8 | NS | < 5 | NS | NS | < 2 | < 130 | NS | < 20 | NS | 45 | NS | NS | < 2 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | 2,030 | 410 | < 2 | NS | < 2 | < 2 | < 2 | < 2 | NS | < 2 | NS | NS | < 2 | < 2 | NS | < 2 | NS | 83 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | 2,030 | 760 | < 100 | NS | < 5 | < 5 | < 5 | < 5 | NS | < 5 | NS | NS | < 5 | < 130 | NS | < 5 | NS | 45 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | 2,030 | 720 | < 40 | < 2 | < 2 | < 2 | < 2 | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | < 2 | < 2 | < 2 | 4 | < 2 | NS | < 2 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | 2,030 | 330 | 3 | NS | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | NS | NS | < 2 | NS | < 2 | NS | 10 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | 2,030 | 290 | < 5 | NS | < 5 | NS | < 5 | < 5 | NS | < 5 | NS | NS | NS | < 5 | NS | < 5 | NS | 5 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | 2,030 | 280 | < 100 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | NS | NS | < 5 | < 5 | < 5 | < 5 | 21 | < 5 | NS | < 5 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | 2,030 | 260 | < 10 | NS | < 2 | NS | < 2 | < 2 | NS | < 2 | NS | NS | NS | < 2 | NS | < 2 | NS | 3.8 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | 5,241 | 1100 | < 50 | < 1 | NL | NU | < 1 | < 1 | 7.3 J | < 1 | < 1 | NL | NL | NU | < 1 | < 5 | < 1 | 1.4 | < 2 | NL | < 20 | < 1 | < 1 | < 10 | < 200 | < 1 | NI | NI | NI | NI |
| Jan-12 | ug/L | 8260 | 5,241 | 930 | < 20 | < 1 | NL | NU | 0.42 J | 0.35 J | < 50 | < 1 | < 1 | NL | NL | NU | < 1 | 0.40 J | < 1 | 59 | < 1 | NL | < 20 | < 1 | < 1 | < 20 | < 50 | < 1 | NI | NI | NI | NI |
| Apr-12 | ug/L | 8260 | 5,241 | 1,100 | < 20 | < 1 | NL | NU | 0.33 J | < 1 | < 50 | < 1 | < 1 | NL | NL | NU | < 1 | 1.8 J | < 1 | 54 | < 1 | NL | 7.6 J | < 1 | < 1 | < 20 | 9.3 J | < 1 | NI | NI | NI | NI |
| Jul-12 | ug/L | 8260 | 5,241 | 820 | < 25 | < 1 | NL | NU | < 1 | < 1 | < 50 | < 1 | < 1 | NL | NL | NU | < 1 | < 2 | < 1 | 15 | < 1 | NL | < 20 | < 1 | < 1 | < 10 | < 50 | < 1 | NI | NI | NI | NI |
| Oct-12 | ug/L | 8260 | 5,241 | 530 | < 25 | < 1 | NL | NU | < 2 | < 1 | < 50 | < 1 | < 1 | NL | NL | NU | < 1 | < 5 | < 1 | 37 J | < 1 | NL | < 20 | < 1 | < 1 | < 10 | < 20 | < 1 | NI | NI | NI | NI |
| Jan-13 | ug/L | 8260 | 5,241 | 800 | < 25 | < 1 | NL | NU | < 1 | < 1 | < 50 | < 1 | < 1 | NL | NL | NU | < 1 | < 5 | < 1 | 140 | < 1 | NL | 6.7 J | < 1 | < 1 | < 20 | 2.3 | < 1 | NI | NI | NI | NI |
| Apr-13 | ug/L | 8260 | 5,241 | 570 | 3.4 J | < 0.15 | NS | NU | 0.24 J | < 0.15 | 13 | < 0.15 | < 0.15 | NL | NL | NU | < 0.15 | 0.71 J | < 0.15 | 40 | < 0.15 | NL | 4.1 | < 0.15 | < 0.15 | 2.8 | 1.5 | < 0.15 | NI | NI | NI | NI |
| Jul-13 | ug/L | 8260 | 5,241 | 650 | < 1.4 | < 0.14 | NS | NU | < 0.14 | < 0.14 | 21 | < 0.14 | < 0.14 | NL | NL | NU | < 0.14 | 1.2 | < 0.14 | 18 | < 0.14 | NL | 5.4 J | < 0.14 | < 0.14 | < 1.4 | < 1.4 | < 0.14 | NI | NI | NI | NI |
| Oct-13 | ug/L | 8260 | 5,241 | 510 | 2 | < 0.14 | 3.5 | NU | < 0.14 | < 0.14 | 12 | < 0.14 | < 0.14 | NL | NL | NU | < 0.14 | 0.41 J | < 0.14 | 10 J | < 0.14 | NL | 10 J | < 0.14 | NA | 7.2 J | 2.0 | < 0.14 | NI | NI | NI | NI |
| Jan-14 | ug/L | 8260 | 5,241 | 370 | < 1.4 | < 0.14 | < 0.14 | NU | < 0.14 | < 0.14 | 24 | < 0.14 | < 0.14 | NL | NL | NU | < 0.14 | < 0.14 | < 0.14 | 11 | < 0.14 | NL | 20 | < 0.14 | < 0.14 | < 1.4 | < 1.4 | < 0.14 | < 0.14 | < 0.14 | < 0.14 | < 0.14 |
| **Xylenes** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec-98 | ug/L | 8260 | 10,000 | 5,600 | 5,200 | < 1 | 1.4 | NS | NI | NI | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-00 | ug/L | 8260 | 10,000 | **59,000** | 8,600 | < 2 | < 2 | NS | < 2 | < 2 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-01 | ug/L | 8260 | 10,000 | **64,000** | 8,500 | < 10 | < 10 | < 10 | < 10 | < 10 | NS | < 10 | < 10 | < 10 | < 10 | 83J | < 10 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Nov-01 | ug/L | 8260 | 10,000 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 25 | < 10 | < 200 | < 10 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-02 | ug/L | 8260 | 10,000 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 10 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-03 | ug/L | 8260 | 10,000 | NS | 2,000 | < 10 | < 10 | < 10 | < 10 | < 10 | NS | NS | NS | < 10 | NS | < 500 | < 10 | < 20 | NS | NS | < 10 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-03 | ug/L | 8260 | 10,000 | **42,000** | NS | NS | NS | NS | NS | NS | NS | 22 | NS | NS | 38 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-04 | ug/L | 8260 | 10,000 | NS | 7,300 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | < 50 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jul-04 | ug/L | 8260 | 10,000 | NS | **22,000** | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | < 22 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-04 | ug/L | 8260 | 10,000 | NS | 5,100 | NS | NS | NS | NS | < 5 | NS | < 5 | NS | NS | NS | < 250 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-05 | ug/L | 8261 | 10,000 | NS | **16,000** | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | < 250 | NS | NS | NS | < 5 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Aug-05 | ug/L | 8260 | 10,000 | NS | 150 | NS | NS | NS | NS | NS | NS | NS | NS | NS | < 5 | 10 | NS | NS | NS | 6 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Jun-06 | ug/L | 8260 | 10,000 | NS | 1,800 | NS | < 5 | < 5 | < 5 | < 5 | NS | < 5 | NS | NS | < 5 | < 130 | NS | 28 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-06 | ug/L | 8260 | 10,000 | **84,000** | 2,600 | NS | < 5 | < 5 | < 7 | < 5 | NS | < 5 | NS | NS | < 5 | < 130 | NS | < 50 | NS | 2,700 | NS | NS | 51 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-06 | ug/L | 8260 | 10,000 | **41,000** | 4,900 | NS | < 5 | < 5 | < 5 | < 5 | NS | < 5 | NS | NS | < 5 | 18 | NS | 35 | NS | **13,000** | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Mar-07 | ug/L | 8260 | 10,000 | **70,000** | **12,000** | NS | < 5 | < 5 | < 5 | < 5 | NS | < 5 | NS | NS | < 5 | < 130 | NS | 12 | NS | 6,900 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-07 | ug/L | 8260 | 10,000 | **54,000** | 5,400 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | NS | < 5 | NS | < 5 | 7 | < 5 | 250 | < 5 | NS | 57 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| May-08 | ug/L | 8260 | 10,000 | **94,000** | **24,000** | NS | < 5 | NS | < 5 | 27 | NS | 16 | NS | NS | NS | 26 | NS | 11 | NS | 1,300 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Dec-08 | ug/L | 8260 | 10,000 | **55,000** | **11,000** | NS | < 5 | NS | < 5 | < 5 | NS | < 5 | NS | NS | NS | 12 | NS | < 5 | NS | 120 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Apr-09 | ug/L | 8260 | 10,000 | **48,000** | 6,300 | < 5 | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 | NS | NS | 22 | < 5 | < 5 | < 5 | 2,700 | < 5 | NS | 98 | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Sep-09 | ug/L | 8260 | 10,000 | **47,000** | 6,100 | NS | < 2 | 77 J | < 5 | < 5 | NS | < 5 | NS | NS | NS | 12 | NS | < 5 | NS | 380 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| Oct-11 | ug/L | 8260 | 10,000 | **73,000** | 4,200 | 9.9 | NL | NU | 1.9 J | < 2 | 93 | < 2 | < 2 | NL | NL | NU | < 2 | 4.2 J | 8.7 | 110 | 3.4 J | NL | 2,800 | < 2 | 0.24 J | 35 | 2,200 | < 2 | NI | NI | NI | NI |
| Jan-12 | ug/L | 8260 | 10,000 | **88,000** | 5,800 | 17 | NL | NU | 1.3 J | 0.65 J | 86 | < 2 | < 2 | NL | NL | NU | < 2 | 11 | < 2 | 6,100 | < 2 | NL | 2,500 | 0.58 J | 0.21 J | 56 | 450 | < 2 | NI | NI | NI | NI |
| Apr-12 | ug/L | 8260 | 10,000 | **110,000** | 5,500 | < 2 | NL | NU | 21 | 0.22 J | 55 J | < 2 | 12 | NL | NL | NU | < 2 | 230 | 20 | 7,200 | < 2 | NL | 2,100 | < 2 | 2.4 | 22 J | 390 | < 2 | NI | NI | NI | NI |
| Jul-12 | ug/L | 8260 | 10,000 | **91,000** | 2,600 | < 2 | NL | NU | 1.1 J | 0.28 J | 92 J | < 2 | < 2 | NL | NL | NU | < 2 | < 4 | < 2 | 2,000 | < 2 | NL | 1,000 | < 2 | < 2 | 16 J | 88 J | < 2 | NI | NI | NI | NI |
| Oct-12 | ug/L | 8260 | 10,000 | **100,000** | 4,900 | < 2 | NL | NU | 1.7 J | 0.5 J | 110 | < 2 | < 2 | NL | NL | NU | < 2 | 20 | < 2 | 4,200 | < 2 | NL | 370 | < 2 | < 2 | 26 | 70 | < 2 | NI | NI | NI | NI |
| Jan-13 | ug/L | 8260 | 10,000 | **100,000** | 3,500 | < 2 | NL | NU | 1.4 J | < 2 | 170 | < 2 | < 2 | NL | NL | NU | < 2 | 22 | < 2 | **2,400** | < 2 | NL | 2,900 | < 2 | < 2 | 27 J | 15 | < 2 | NI | NI | NI | NI |
| Apr-13 | ug/L | 8260 | 10,000 | **110,000** | 3,700 | < 0.31 | NS | NU | 8.0 | 0.33 J | 270 | < 0.31 | 0.41 J | NL | NL | NU | 0.42 J | 26 | < 0.31 | 8,300 | 3.9 | NL | 1,500 | < 0.31 | < 0.31 | 42 | 12 | < 0.31 | NI | NI | NI | NI |
| Jul-13 | ug/L | 8260 | 10,000 | **110,000** | 2,200 | < 0.20 | NS | NU | < 0.20 | < 0.20 | 1000 | < 0.20 | < 0.20 | NL | NL | NU | < 0.20 | 58 | < 0.20 | 5,500 | < 0.20 | NL | 1,700 | 2.6 | < 0.20 | 40 | 24 | < 0.20 | NI | NI | NI | NI |
| Oct-13 | ug/L | 8260 | 10,000 | **110,000** | 2,600 | < 0.20 | < 0.20 | NU | 5.6 | < 0.20 | 510 | < 0.20 | < 0.20 | NL | NL | NU | < 0.20 | 6.3 | < 0.20 | 2,300 | < 0.20 | NL | 2,500 | < 0.20 | NA | 110 | 26 | < 0.20 | NI | NI | NI | NI |
| Jan-14 | ug/L | 8260 | 10,000 | **88,000** | 2,700 | < 0.20 | < 0.20 | NU | < 0.20 | < 0.20 | 810 | < 0.20 | < 0.20 | NL | NL | NU | < 0.20 | 2.7 | < 0.20 | 7,200 | < 0.20 | NL | 6,600 | < 0.20 | < 0.20 | 170 | 40 | < 0.20 | < 0.20 | < 0.20 | 1.9 | |

**Notes:**

**110,000** Value exceeds a risk reduction standard
NA = Well not accessible due to nearby construction
NS = Well not sampled
NI = Well not installed
NU = Well not used due to being silted
NL = Well not located
< = less than indicated value
< 5/< 500 = sample was analyzed twice
J = this is an estimated value that is above the method detection limit but below the practical quantitation limit.
The sample denoted MW-10 on 12/18/98 is believed to have been collected from MW-9, I.e. the two samples were mislabeled. This table shows what is believed to be correct.
Risk reduction standard, the higher of the Type 3 or 4 from Table 2 of Risk Reduction Standards dated August 13, 2001
Type 3 or 4 RRS from 2/1/1991 to 4/26/2010 from CAP
RRS beginning on 4/27/2011 from VRP Application

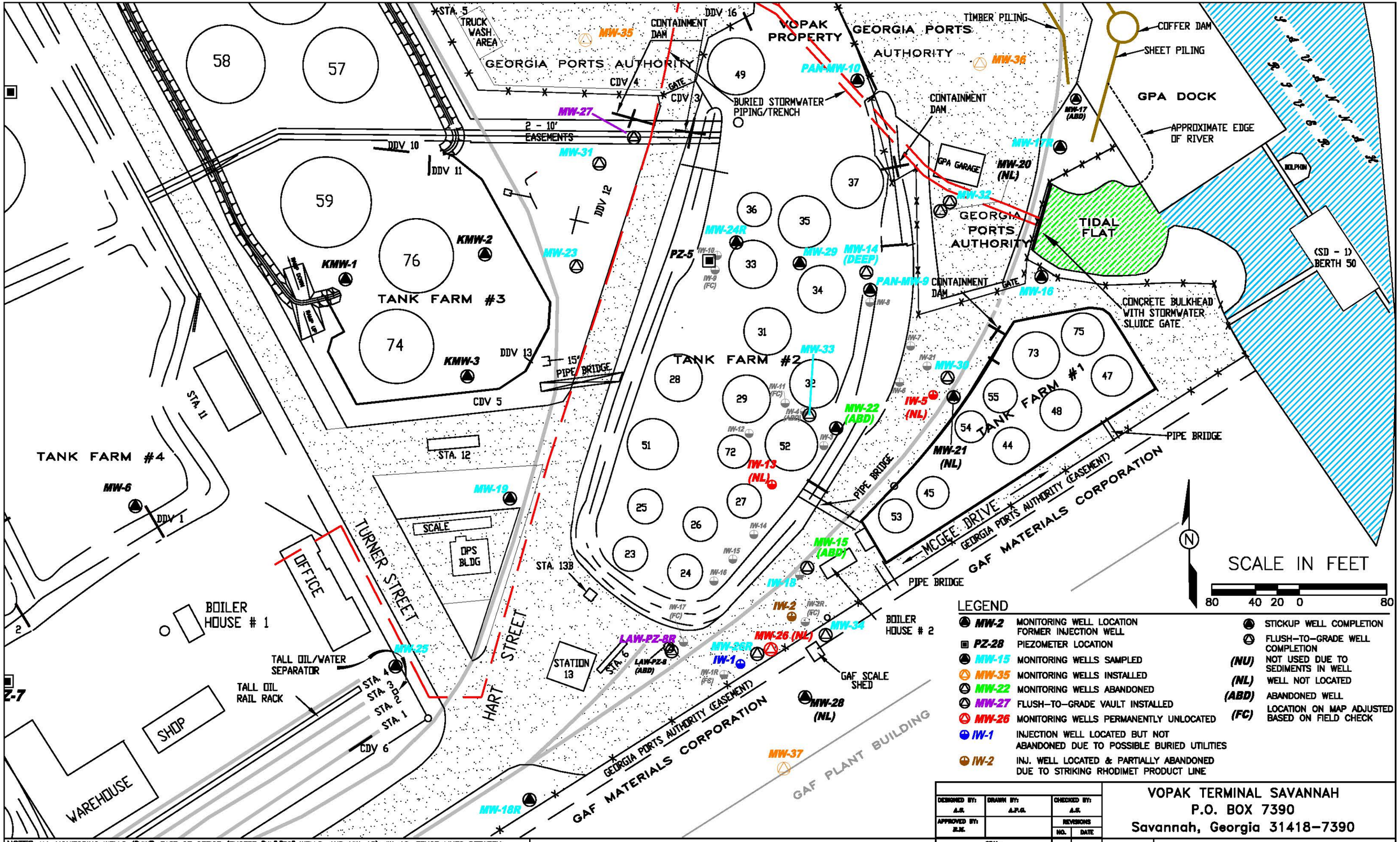
MW-17 was replaced by MW-17R on October 10, 2006
MW-26 was replaced by MW-26R on October 9, 2006
*1 MW-14 was located by surveyors on January 24, 2013. To be sampled pending redevelopment
*2 MW-15 was filled with silt above water level and could not be used
*3 IW-18 was ultilized as a replacement for MW-15
*4 MW-20 was not located (possibly paved over)
*5 MW-21 was not located
*6 MW-22 was filled with silt and could not be sampled
LAW-PZ-8 was found damaged during June 2006 sampling event and was not sampled. It was replaced by LAW-PZ-8R on October 9, 2006
All data prior to October 2011 tabulated by ERM.

*7 MW-27 was not possitively identified but is assumed.
*8 MW-28 was not located
*9 MW-30 was installed as a replacement for MW-21 on April 6, 2011
*10 MW-31 was installed as a replacement on April 28, 2011 for MW-27 and lies approximately where MW-27 had been shown on previous site maps
*11 MW-32 was installed as a replacement for MW-20 on April 25, 2011
*12 MW-33 was installed as a replacement for MW-22 on April 28, 2011
*13 MW-34 was installed as a replacement for MW-28 on April 26, 2011
*14 MW-35, MW-36, and MW-37 were installed December 2013

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# FIFTH SEMIANNUAL PROGRESS REPORT

# FIGURES




LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION FORMER INJECTION WELL | | STICKUP WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | | FLUSH-TO-GRADE WELL COMPLETION |
| MW-15 | MONITORING WELLS SAMPLED | (NU) | NOT USED DUE TO SEDIMENTS IN WELL |
| MW-35 | MONITORING WELLS INSTALLED | (NL) | WELL NOT LOCATED |
| MW-22 | MONITORING WELLS ABANDONED | (ABD) | ABANDONED WELL |
| MW-27 | FLUSH-TO-GRADE VAULT INSTALLED | (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| MW-26 | MONITORING WELLS PERMANENTLY UNLOCATED | | |
| IW-1 | INJECTION WELL LOCATED BUT NOT ABANDONED DUE TO POSSIBLE BURIED UTILITIES | | |
| IW-2 | INJ. WELL LOCATED & PARTIALLY ABANDONED DUE TO STRIKING RHODIMET PRODUCT LINE | | |

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC" WELLS, AND MW-15), IW-18, FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW") IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY.
REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

# FIGURE 2-1:
# DECEMBER 2013 WELL ACTIVITIES

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | |
| APPROVED BY: E.M. | | REVISIONS NO. | DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

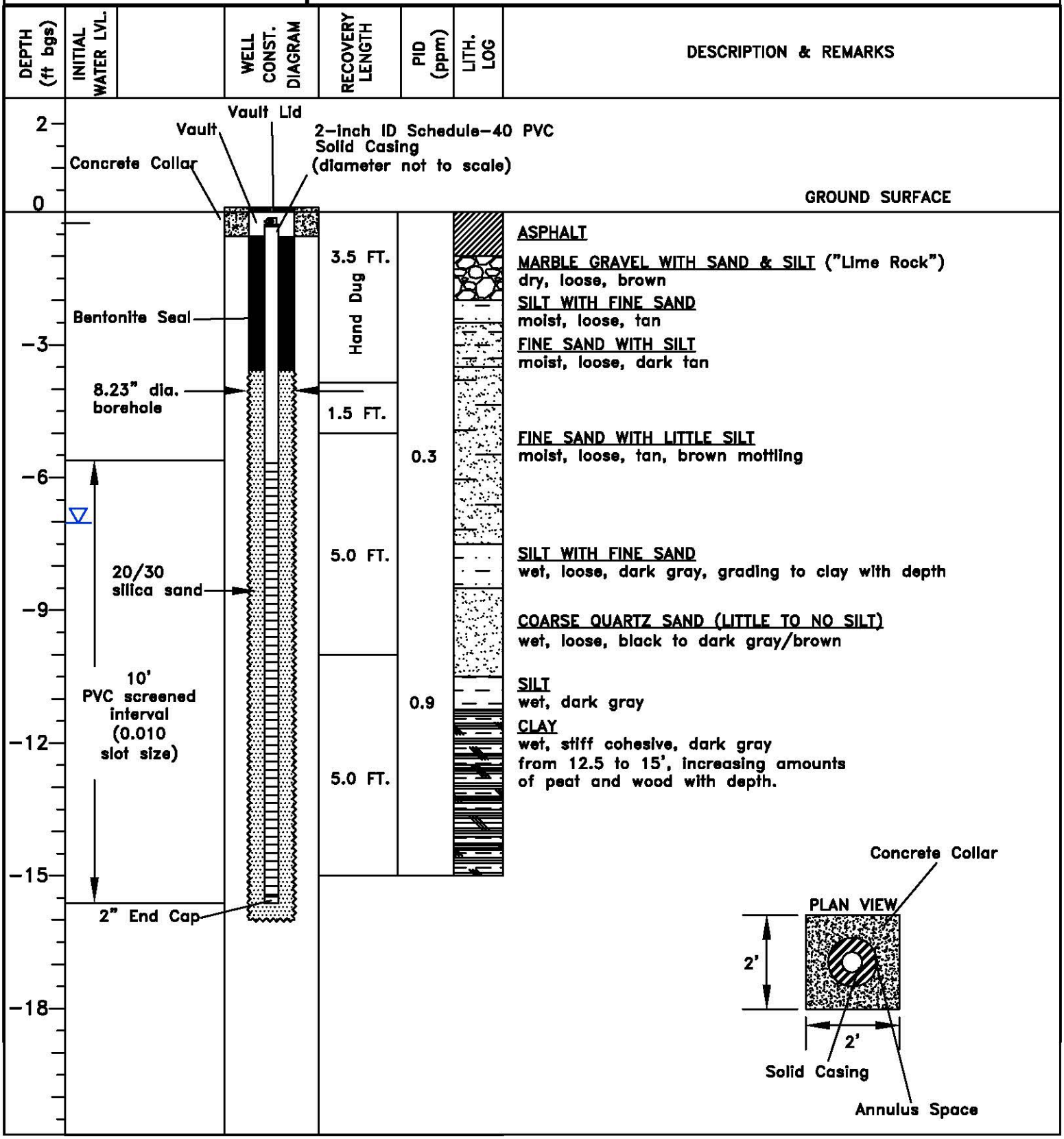
ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/25/2014 | FILE: 390033 - 2013 WELL INST. & ABD. | SHEET NO.:

ENVIRONMENTAL INT'L CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA, GEORGIA, 30009 USA
PHONE: 770-772-7100
FAX: 770-772-0555
http://www.eicusa.com

# FIGURE 3-1: MONITORING WELL MW-35

| | |
|---|---|
| MONITOR WELL MW-35 | DRILLING COMPANY BETTS ENV. RECOVERY |
| PROJECT VOPAK TERMINAL SAVANNAH | DATE DRILLED 12/17/2013 |
| LOCATION GARDEN CITY, GA | SURFACE ELEVATION UNKNOWN |
| JOB NUMBER 390033 | TOTAL DEPTH OF WELL 15.63 FT. BGS |
| GEOLOGIST ALAN SANDERS | TOP OF BEDROCK N/A |
| DRILL METHOD 6620DT GEOPROBE WITH HOLLOW STEM AUGER | INITIAL WATER LEVEL ~7 FT. BGS |



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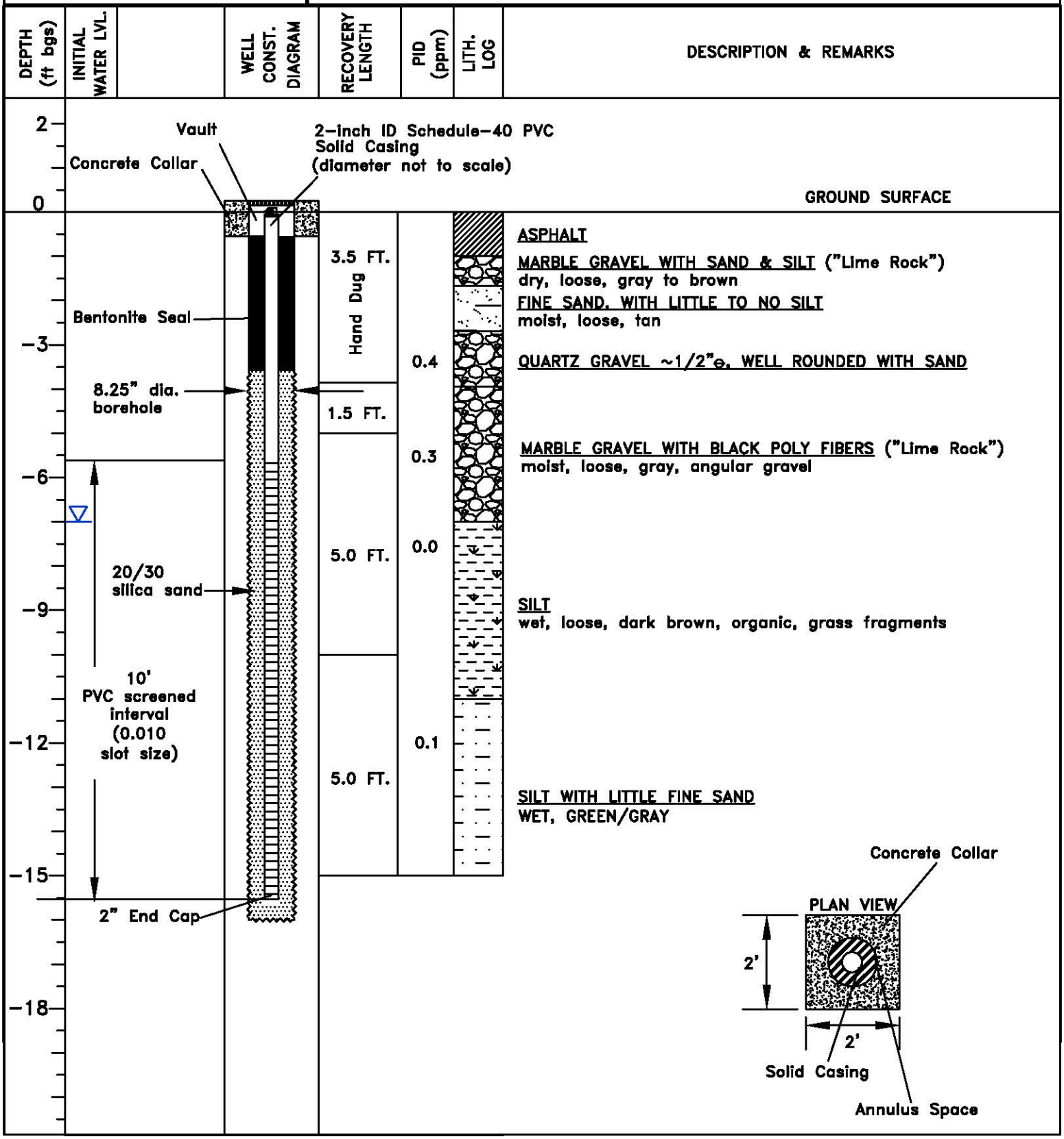
ALPHARETTA, GEORGIA, 30009 USA
PHONE: 770-772-7100
FAX: 770-772-0555
http://www.eicusa.com

# FIGURE 3-2: MONITORING WELL MW-36

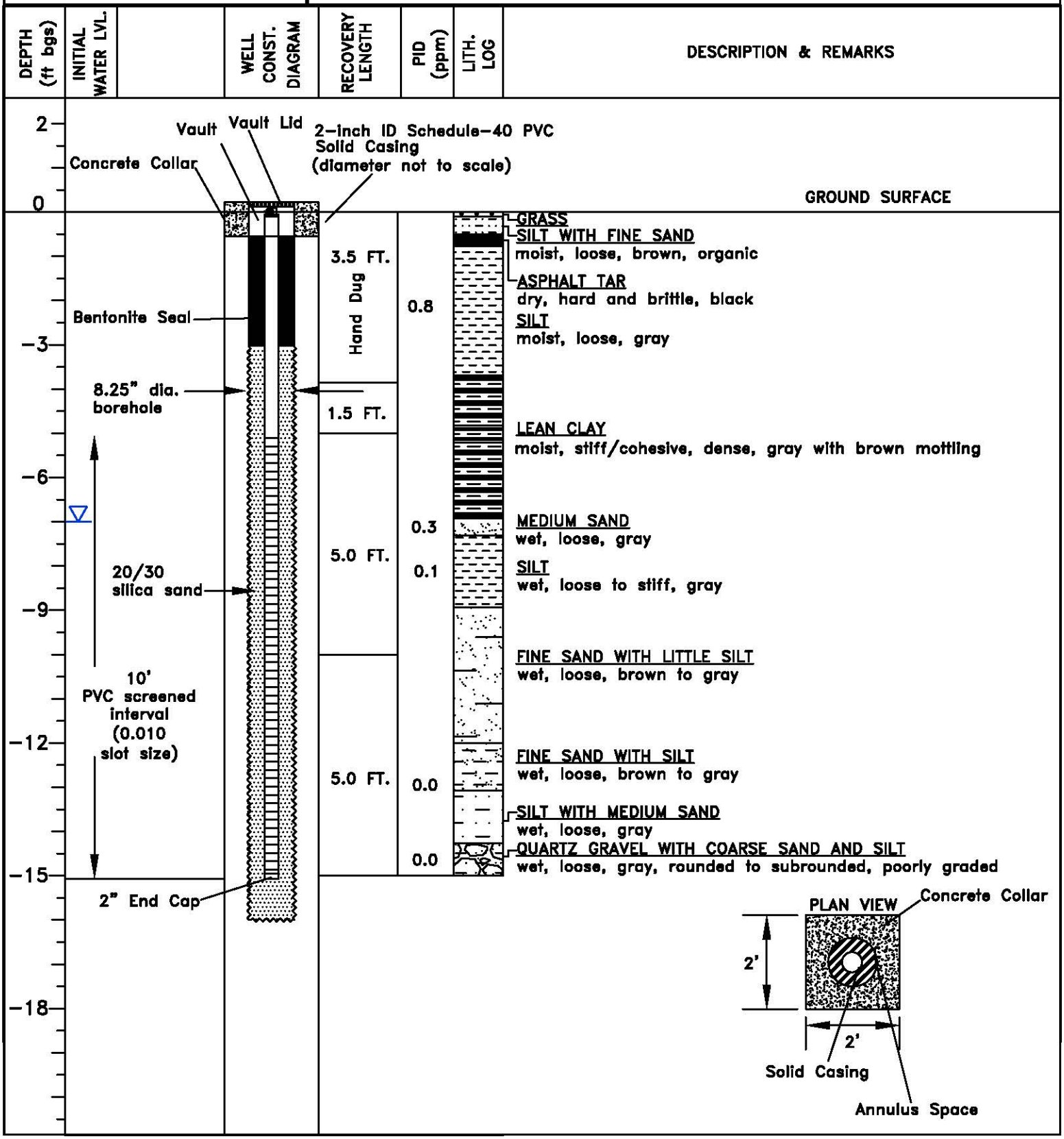
| | |
|---|---|
| MONITOR WELL MW-36 | DRILLING COMPANY BETTS ENV. RECOVERY |
| PROJECT VOPAK TERMINAL SAVANNAH | DATE DRILLED 12/17/2013 |
| LOCATION GARDEN CITY, GA | SURFACE ELEVATION UNKNOWN |
| JOB NUMBER 390033 | TOTAL DEPTH OF WELL 15.55 FT. BGS |
| GEOLOGIST ALAN SANDERS | TOP OF BEDROCK N/A |
| DRILL METHOD 6620DT GEOPROBE WITH HOLLOW STEM AUGER | INITIAL WATER LEVEL ~7 FT. BGS |

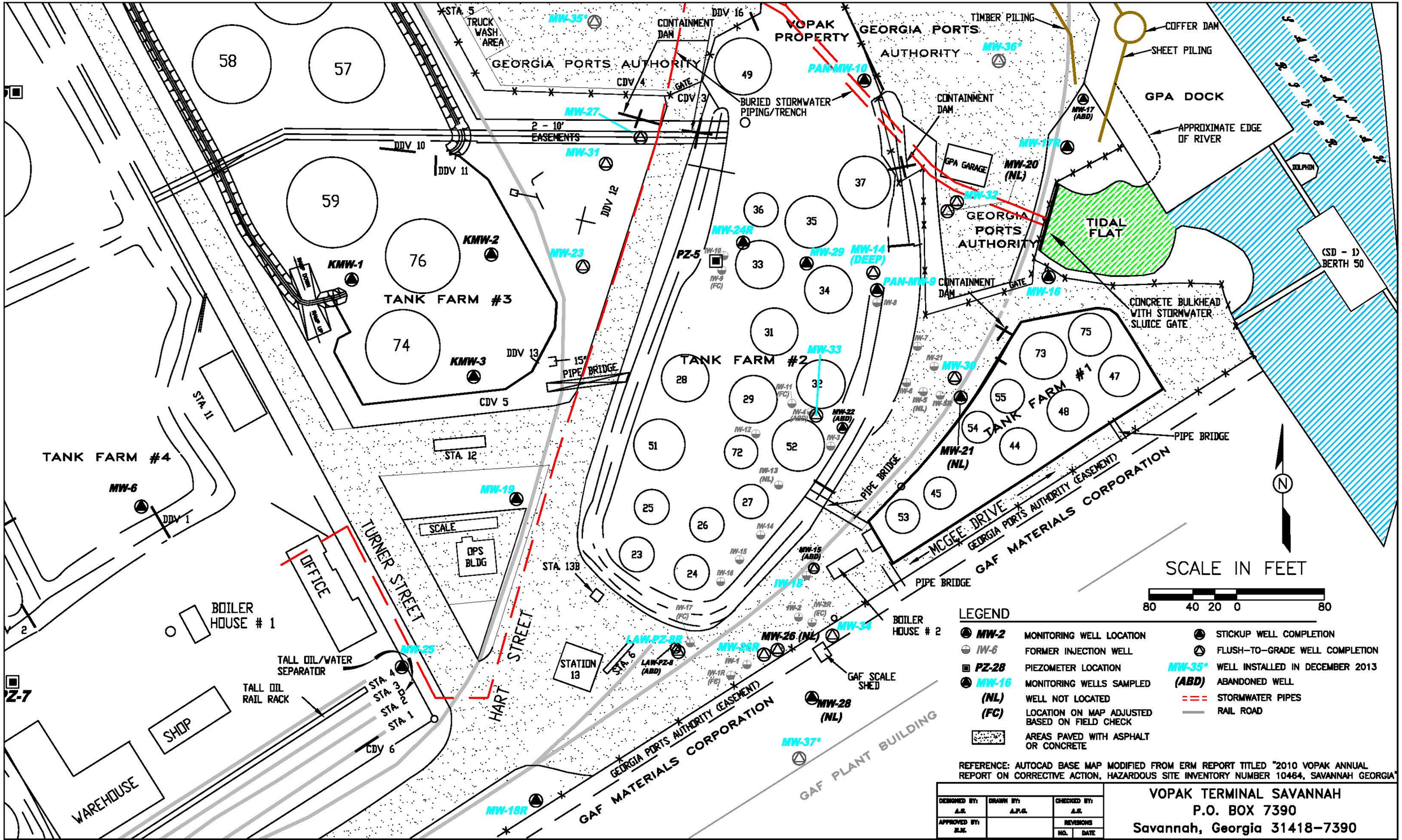


ENVIRONMENTAL INT'L CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA, GEORGIA, 30009 USA
PHONE: 770-772-7100
FAX: 770-772-0555
http://www.eicusa.com

# FIGURE 3-3: MONITORING WELL MW-37

| | |
|---|---|
| MONITOR WELL MW-37 | DRILLING COMPANY BETTS ENV. RECOVERY |
| PROJECT VOPAK TERMINAL SAVANNAH | DATE DRILLED 12/16/2013 |
| LOCATION GARDEN CITY, GA | SURFACE ELEVATION UNKNOWN |
| JOB NUMBER 390033 | TOTAL DEPTH OF WELL 15.15 FT. BGS |
| GEOLOGIST ALAN SANDERS | TOP OF BEDROCK N/A |
| DRILL METHOD 6620DT GEOPROBE WITH HOLLOW STEM AUGER | INITIAL WATER LEVEL ~ 7 FT. BGS |






## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | MW-35* | WELL INSTALLED IN DECEMBER 2013 |
| MW-16 | MONITORING WELLS SAMPLED | (ABD) | ABANDONED WELL |
| (NL) | WELL NOT LOCATED | | STORMWATER PIPES |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | | RAIL ROAD |
| | AREAS PAVED WITH ASPHALT OR CONCRETE | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-1:
# SITE MAP

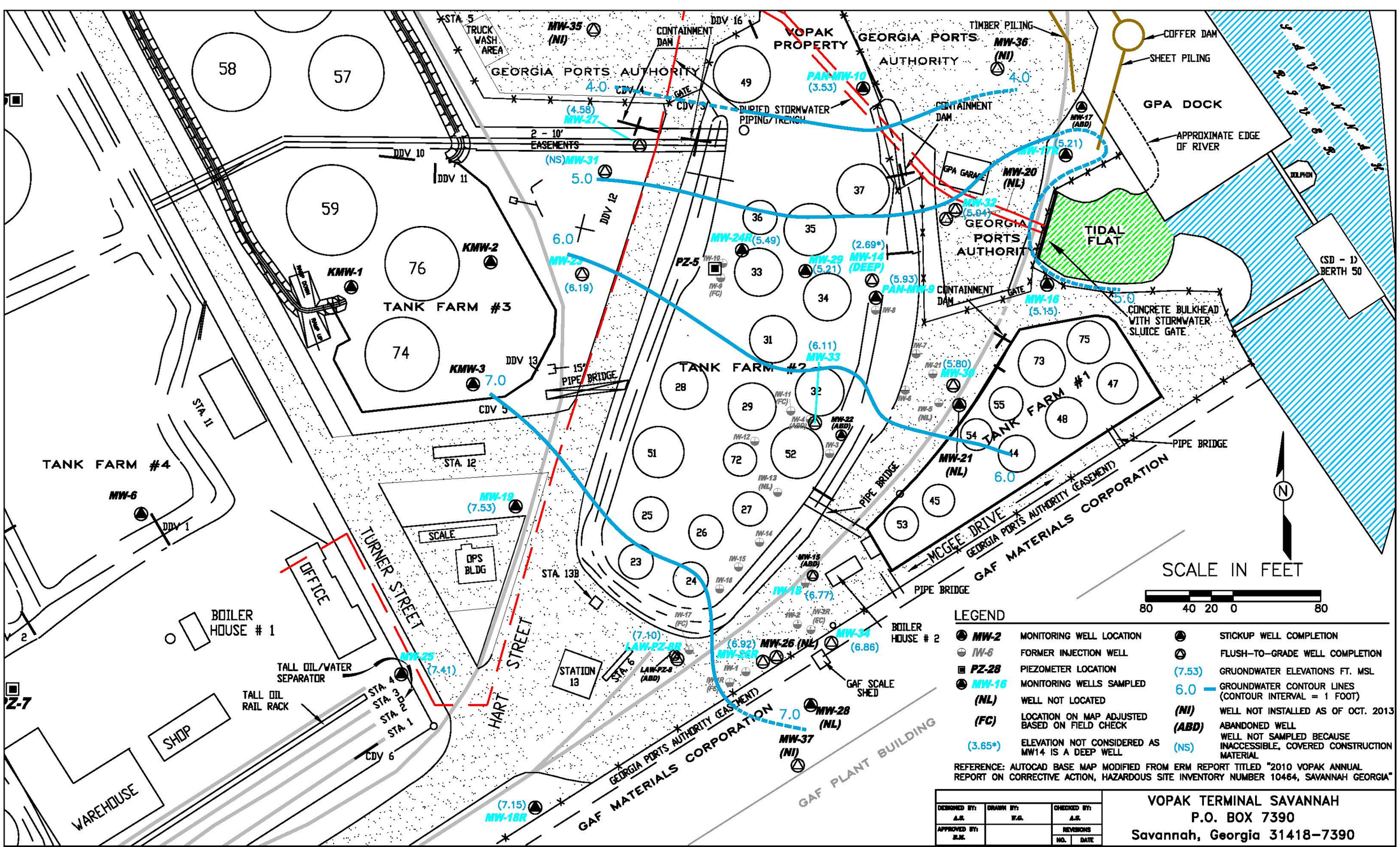
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA, GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/26/2014 | FILE: 390031 - SITE CONCEPTUAL MODEL | SHEET NO.:




## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (7.53) | GRUONDWATER ELEVATIONS FT. MSL |
| MW-16 | MONITORING WELLS SAMPLED | 6.0 | GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL = 1 FOOT) |
| (NL) | WELL NOT LOCATED | (NI) | WELL NOT INSTALLED AS OF OCT. 2013 |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (ABD) | ABANDONED WELL |
| (3.65*) | ELEVATION NOT CONSIDERED AS MW14 IS A DEEP WELL | (NS) | WELL NOT SAMPLED BECAUSE INACCESSIBLE, COVERED CONSTRUCTION MATERIAL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-2:
# GROUNDWATER POTENTIOMETRIC SURFACE MAP
# OCTOBER 1-3, 2013

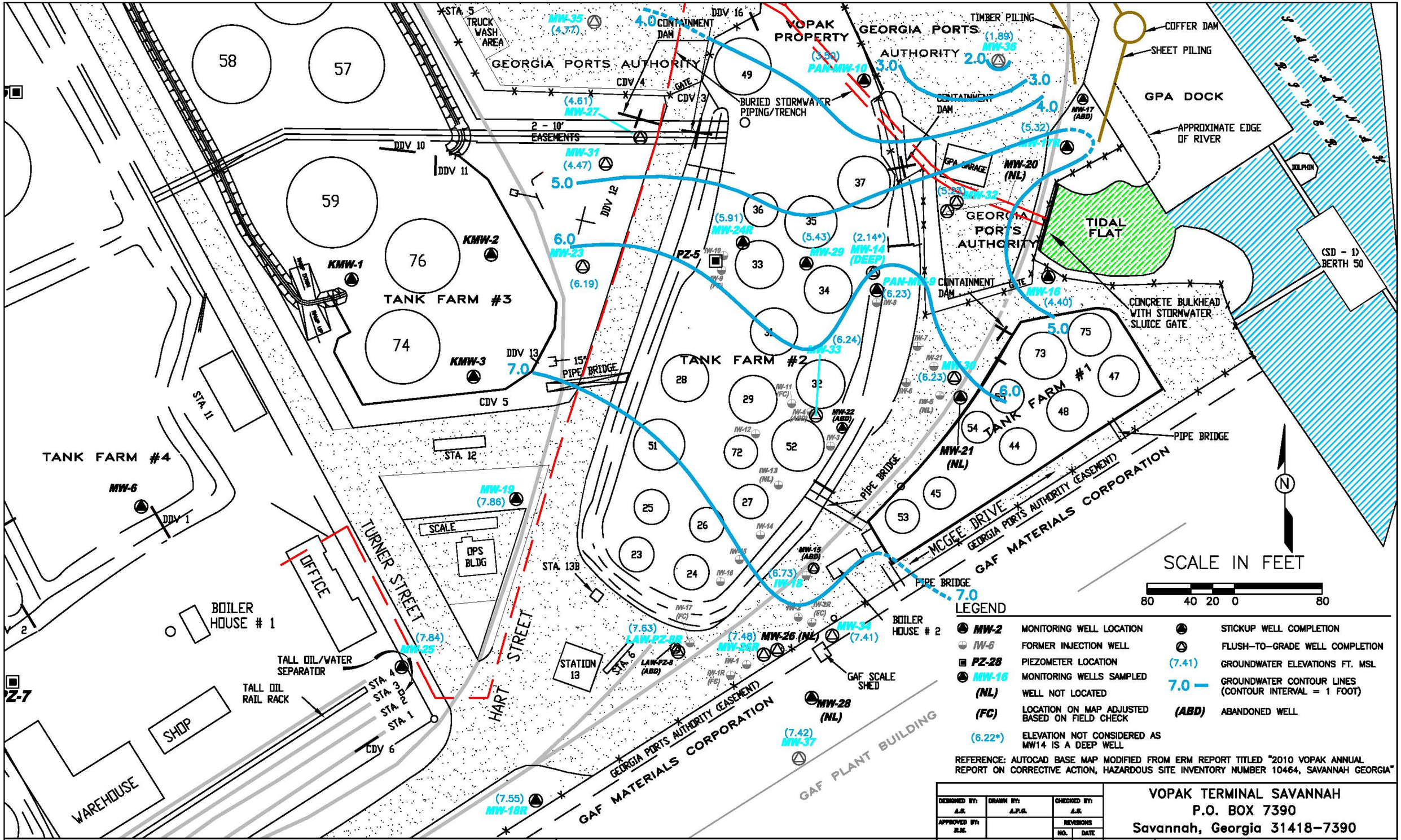
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | |
| APPROVED BY: E.M. | | REVISIONS NO. | DATE |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

SEAL:

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 2/25/2014 | 390080 - TTH MNA SAMPLING | |




LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (7.41) | GROUNDWATER ELEVATIONS FT. MSL |
| MW-16 | MONITORING WELLS SAMPLED | 7.0 | GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL = 1 FOOT) |
| (NL) | WELL NOT LOCATED | (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | | |
| (6.22*) | ELEVATION NOT CONSIDERED AS MW14 IS A DEEP WELL | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-3:
# GROUNDWATER POTENTIOMETRIC SURFACE MAP
# JAN 19-21, 2014

| | | |
|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. |
| APPROVED BY: E.M. | | REVISIONS NO. / DATE |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

SEAL:

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/25/2014 | FILE: 390080 - 10TH MNA SAMPLING | SHEET NO.:

| MW-31 | |
|---|---|
| DATE | 10/01/2013 |
| UNITS | ug/L |
| BENZENE | NS |
| ETHYLBEN. | NS |
| TOLUENE | NS |
| XYLENES | NS |
| PCE | NS |
| TCE | NS |
| CIS 1,2-DCE | NS |
| VC | NS |

| MW-27 | |
|---|---|
| DATE | 10/01/2013 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | 2.9 |

| PAN-MW-10 | |
|---|---|
| DATE | 10/02/2013 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | 0.76 J |
| VC | <0.19 |

| MW-29 | |
|---|---|
| DATE | 10/01/2013 |
| UNITS | ug/L |
| BENZENE | 20 |
| ETHYLBEN. | 1,200 |
| TOLUENE | 10 J |
| XYLENES | 2,500 |
| PCE | 140 |
| TCE | 66 |
| CIS 1,2-DCE | 6,100 |
| VC | 760 |

| MW-17R | |
|---|---|
| DATE | 10/02/2013 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | 0.83 J |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-32 | |
|---|---|
| DATE | 10/02/2013 |
| UNITS | ug/L |
| BENZENE | <1.6 |
| ETHYLBEN. | 160 |
| TOLUENE | 7.2 J |
| XYLENES | 110 |
| PCE | 6,200 |
| TCE | 1,300 |
| CIS 1,2-DCE | 1600 |
| VC | 220 |

| MW-23 | |
|---|---|
| DATE | 10/01/2013 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-24R | |
|---|---|
| DATE | 10/02/2013 |
| UNITS | ug/L |
| BENZENE | 6.0 |
| ETHYLBEN. | 0.79 J |
| TOLUENE | 0.41 J |
| XYLENES | 6.3 |
| PCE | 3.3 |
| TCE | 2.2 |
| CIS 1,2-DCE | 450 |
| VC | 43 |

| PAN-MW-9 | |
|---|---|
| DATE | 10/01/2013 |
| UNITS | ug/L |
| BENZENE | 1.1 |
| ETHYLBEN. | 1,000 |
| TOLUENE | 1.5 |
| XYLENES | 2,600 |
| PCE | 29 |
| TCE | 440 |
| CIS 1,2-DCE | 2,500 |
| VC | 76 |

| MW-14 | |
|---|---|
| DATE | 10/02/2013 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | 3.5 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-33 | |
|---|---|
| DATE | 10/2/2013 |
| UNITS | ug/L |
| BENZENE | 1.8 |
| ETHYLBEN. | 9.0 |
| TOLUENE | 2.0 |
| XYLENES | 26 |
| PCE | 1.2 |
| TCE | 4.8 |
| CIS 1,2-DCE | 800 |
| VC | 480 |

| MW-16 | |
|---|---|
| DATE | 10/03/2013 |
| UNITS | ug/L |
| BENZENE | 0.83 J |
| ETHYLBEN. | 1.2 |
| TOLUENE | <0.14 |
| XYLENES | 5.6 |
| PCE | 0.58 J |
| TCE | 1.1 |
| CIS 1,2-DCE | 110 |
| VC | 86 |

| MW-19 | |
|---|---|
| DATE | 10/03/2013 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-30 | |
|---|---|
| DATE | 10/03/2013 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | 6.2 |
| VC | 2.5 |

| IW-18 | |
|---|---|
| DATE | 10/03/2013 |
| UNITS | ug/L |
| BENZENE | 26 |
| ETHYLBEN. | 56 |
| TOLUENE | 12 |
| XYLENES | 510 |
| PCE | 29 |
| TCE | 26 |
| CIS 1,2-DCE | 6,400 |
| VC | 670 |

| MW-25 | |
|---|---|
| DATE | 10/03/2013 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| LAW-PZ-8R | |
|---|---|
| DATE | 10/03/2013 |
| UNITS | ug/L |
| BENZENE | 1500 |
| ETHYLBEN. | 6800 |
| TOLUENE | 510 |
| XYLENES | 110,000 |
| PCE | 44 |
| TCE | 8.5 J |
| CIS 1,2-DCE | 8500 |
| VC | 830 |

| MW-18R | |
|---|---|
| DATE | 10/01/2013 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-26R | |
|---|---|
| DATE | 10/03/2013 |
| UNITS | ug/L |
| BENZENE | 33 |
| ETHYLBEN. | 160 |
| TOLUENE | 10 J |
| XYLENES | 2,300 |
| PCE | <1.6 |
| TCE | <1.9 |
| CIS 1,2-DCE | 150 |
| VC | 53 |

| MW-34 | |
|---|---|
| DATE | 10/02/2013 |
| UNITS | ug/L |
| BENZENE | 1.3 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | 6.1 |
| TCE | 3.1 |
| CIS 1,2-DCE | 36 |
| VC | 9.8 |

| REVISED TYPE 4 RISK REDUCTION STANDARDS | |
|---|---|
| UNITS | ug/L |
| BENZENE | 9 |
| ETHYLBEN. | 700 |
| TOLUENE | 5,241 |
| XYLENES | 10,000 |
| PCE | 5 |
| TCE | 38 |
| CIS 1,2-DCE | 1,022 |
| VC | 3 |

SCALE IN FEET

80 40 20 0 80

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (NI) | WELL NOT YET INSTALLED AS OF OCTOBER 2013 |
| MW-16 | MONITORING WELLS SAMPLED | 6,000 | EXCEEDS REVISED TYPE 4 RRS |
| (NL) | WELL NOT LOCATED | 8.3 J | ESTIMATED VALUE |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | | |
| (ABD) | ABANDONED WELL | NS | WELL NOT SAMPLED THIS EVENT |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-4:
# GROUNDWATER ANALYTICAL RESULTS
## OCTOBER 1 - 3, 2013

DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | APPROVED BY: R.N.

REVISIONS: NO. | DATE

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 05/26/2014 | FILE: 300030 - 8TH MNA SAMPLING | SHEET NO.:

| MW-35 | |
|---|---|
| DATE | 1/21/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-27 | |
|---|---|
| DATE | 1/20/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | 2.1 |
| VC | 13 |

| MW-31 | |
|---|---|
| DATE | 1/20/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-23 | |
|---|---|
| DATE | 1/20/2013 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-24R | |
|---|---|
| DATE | 1/19/2014 |
| UNITS | ug/L |
| BENZENE | 6.1 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | 2.7 |
| PCE | 2.6 |
| TCE | 4.4 |
| CIS 1,2-DCE | 570 |
| VC | <0.19 |

| PAN-MW-10 | |
|---|---|
| DATE | 1/19/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | 1.3 |
| VC | <0.19 |

| MW-36 | |
|---|---|
| DATE | 1/21/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-17R | |
|---|---|
| DATE | 1/21/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-32 | |
|---|---|
| DATE | 1/21/2014 |
| UNITS | ug/L |
| BENZENE | <1.6 |
| ETHYLBEN. | 180 |
| TOLUENE | <1.4 |
| XYLENES | 170 |
| PCE | 6,500 |
| TCE | 1,300 |
| CIS 1,2-DCE | 1,600 |
| VC | 230 |

| MW-14 | |
|---|---|
| DATE | 1/19/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-16 | |
|---|---|
| DATE | 1/20/2014 |
| UNITS | ug/L |
| BENZENE | 1.5 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | 170 |
| VC | 180 |

| MW-29 | |
|---|---|
| DATE | 1/19/2014 |
| UNITS | ug/L |
| BENZENE | 23 |
| ETHYLBEN. | 3,100 |
| TOLUENE | 20 |
| XYLENES | 6,600 |
| PCE | 330 |
| TCE | 110 |
| CIS 1,2-DCE | 5,900 |
| VC | 790 |

| PAN-MW-9 | |
|---|---|
| DATE | 1/19/2014 |
| UNITS | ug/L |
| BENZENE | <1.6 |
| ETHYLBEN. | 1,100 |
| TOLUENE | <1.4 |
| XYLENES | 2,700 |
| PCE | 17 |
| TCE | 300 |
| CIS 1,2-DCE | 2,100 |
| VC | 190 |

| MW-30 | |
|---|---|
| DATE | 1/19/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | 5.6 |
| VC | <0.19 |

| MW-34 | |
|---|---|
| DATE | 1/20/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | 2.4 |
| TCE | <0.19 |
| CIS 1,2-DCE | 14 |
| VC | <0.19 |

| MW-37 | |
|---|---|
| DATE | 1/20/2014 |
| UNITS | ug/L |
| BENZENE | 14 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | 1.9 |
| PCE | 30 |
| TCE | 16 |
| CIS 1,2-DCE | 860 |
| VC | 130 |

| MW-19 | |
|---|---|
| DATE | 1/20/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-33 | |
|---|---|
| DATE | 1/19/2014 |
| UNITS | ug/L |
| BENZENE | <1.6 |
| ETHYLBEN. | 16 |
| TOLUENE | <1.4 |
| XYLENES | 40 |
| PCE | <1.6 |
| TCE | <1.9 |
| CIS 1,2-DCE | 340 |
| VC | 300 |

| IW-18 | |
|---|---|
| DATE | 1/19/2014 |
| UNITS | ug/L |
| BENZENE | 60 |
| ETHYLBEN. | 100 |
| TOLUENE | 24 |
| XYLENES | 810 |
| PCE | 19 |
| TCE | 28 |
| CIS 1,2-DCE | 5300 |
| VC | 1900 |

| MW-25 | |
|---|---|
| DATE | 1/20/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| MW-18R | |
|---|---|
| DATE | 1/20/2014 |
| UNITS | ug/L |
| BENZENE | <0.16 |
| ETHYLBEN. | <0.19 |
| TOLUENE | <0.14 |
| XYLENES | <0.20 |
| PCE | <0.16 |
| TCE | <0.19 |
| CIS 1,2-DCE | <0.21 |
| VC | <0.19 |

| LAW-PZ-8R | |
|---|---|
| DATE | 1/19/2014 |
| UNITS | ug/L |
| BENZENE | 1200 |
| ETHYLBEN. | 4000 |
| TOLUENE | 370 |
| XYLENES | 88,000 |
| PCE | 38 |
| TCE | <1.9 |
| CIS 1,2-DCE | 7200 |
| VC | 980 |

| MW-26R | |
|---|---|
| DATE | 1/20/2014 |
| UNITS | ug/L |
| BENZENE | 110 |
| ETHYLBEN. | 200 |
| TOLUENE | 11 |
| XYLENES | 7200 |
| PCE | <1.6 |
| TCE | <1.9 |
| CIS 1,2-DCE | 68 |
| VC | <1.9 |

| REVISED TYPE 4 RISK REDUCTION STANDARDS | |
|---|---|
| UNITS | ug/L |
| BENZENE | 9 |
| ETHYLBEN. | 700 |
| TOLUENE | 5,241 |
| XYLENES | 10,000 |
| PCE | 5 |
| TCE | 38 |
| CIS 1,2-DCE | 1,022 |
| VC | 3 |

SCALE IN FEET

80 40 20 0 80

- MW-2 — MONITORING WELL LOCATION
- IW-6 — FORMER INJECTION WELL
- PZ-28 — PIEZOMETER LOCATION
- MW-16 — MONITORING WELLS SAMPLED
- (NL) — WELL NOT LOCATED
- (FC) — LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK
- (ABD) — ABANDONED WELL
- STICKUP WELL COMPLETION
- FLUSH-TO-GRADE WELL COMPLETION
- 6,000 — EXCEEDS REVISED TYPE 4 RRS

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-5:
# GROUNDWATER ANALYTICAL RESULTS
# JANUARY 19-21, 2014

DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | APPROVED BY: E.M.
REVISIONS: NO. | DATE

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/25/2014 | FILE: 390030 - 8TH MNA SAMPLING | SHEET NO.:

CONCENTRATION OF PCE ABOVE 5,000 ug/L
CONCENTRATION OF PCE ABOVE 1,000 ug/L
CONCENTRATION OF PCE ABOVE 100 ug/L
RRS TYPE 4 STANDARDS FOR PCE OF 5 ug/L
DELINEATION CRITERION FOR PCE OF 5 ug/L

STA. 5
TRUCK WASH AREA
MW-35 (NI)
CONTAINMENT DAM
DDV 16
VOPAK PROPERTY
GEORGIA PORTS AUTHORITY
TIMBER PILING
MW-36 (NI)
COFFER DAM
SHEET PILING
GPA DOCK
APPROXIMATE EDGE OF RIVER
CDV 4
GATE
CDV 3
PAN-MW-10 (<0.16)
BURIED STORMWATER PIPING/TRENCH
CONTAINMENT DAM
MW-17 (ABD)
(<0.16) MW-27
2 - 10' EASEMENTS
DDV 10
DDV 11
MW-31 (NS*)
DDV 12
(<0.16) MW-17R
MW-20 (NL)
GPA GARAGE
(6,208) MW-32
TIDAL FLAT
(3.3) MW-24R
(<0.16) MW-23
PZ-5
(140) MW-29
(<0.16*) MW-14 (DEEP)
PAN-MW-9 (29)
CONTAINMENT DAM
GATE
MW-16 (0.58 J)
KMW-1
KMW-2
KMW-3
TANK FARM #3
DDV 13
15" PIPE BRIDGE
CDV 5
TANK FARM #2
(1.2) MW-33
(<0.16) MW-30
MW-22 (ABD)
MW-21 (NL)
TANK FARM #1
PIPE BRIDGE
CONCRETE BULKHEAD WITH STORMWATER SLUICE GATE
(SD - 1) BERTH 50
STA. 11
STA. 12
TANK FARM #4
MW-6
DDV 1
(<0.16) MW-19
SCALE
OPS BLDG
OFFICE
TURNER STREET
STA. 13B
MW-18 (29)
MW-15 (ABD)
MW-34 (6.1)
BOILER HOUSE # 2
BOILER HOUSE # 1
(<0.16) MW-25
TALL OIL/WATER SEPARATOR
TALL OIL RAIL RACK
STA. 4
STA. 3
STA. 2
STA. 1
CDV 6
STATION 13
STA. 6
(44) LAW-PZ-8R
LAW-PZ-8 (ABD)
(<1.6) MW-26 (NL)
HART STREET
GAF SCALE SHED
MW-28 (NL)
MW-37 (NI)
GEORGIA PORTS AUTHORITY (EASEMENT)
GAF MATERIALS CORPORATION
GAF PLANT BUILDING
SHOP
WAREHOUSE
(<0.16) MW-16R
MCGEE DRIVE

SCALE IN FEET
80 40 20 0 80

LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (NI) | WELL NOT YET INSTALLED AS OF OCTOBER 2013 |
| MW-15 | MONITORING WELLS SAMPLED | | |
| (NL) | WELL NOT LOCATED | (<0.16) | CONCENTRATION OF PCE IN ug/L |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (ABD) | ABANDONED WELL |
| (<0.16*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | (NS) | WELL NOT SAMPLED BECAUSE INACCESSIBLE, COVERED CONSTRUCTION MATERIAL |
| J | RESULT IS LESS THAN THE RL BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-6:
# PCE PLUME MAP
# Oct 1-3, 2013

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.N. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
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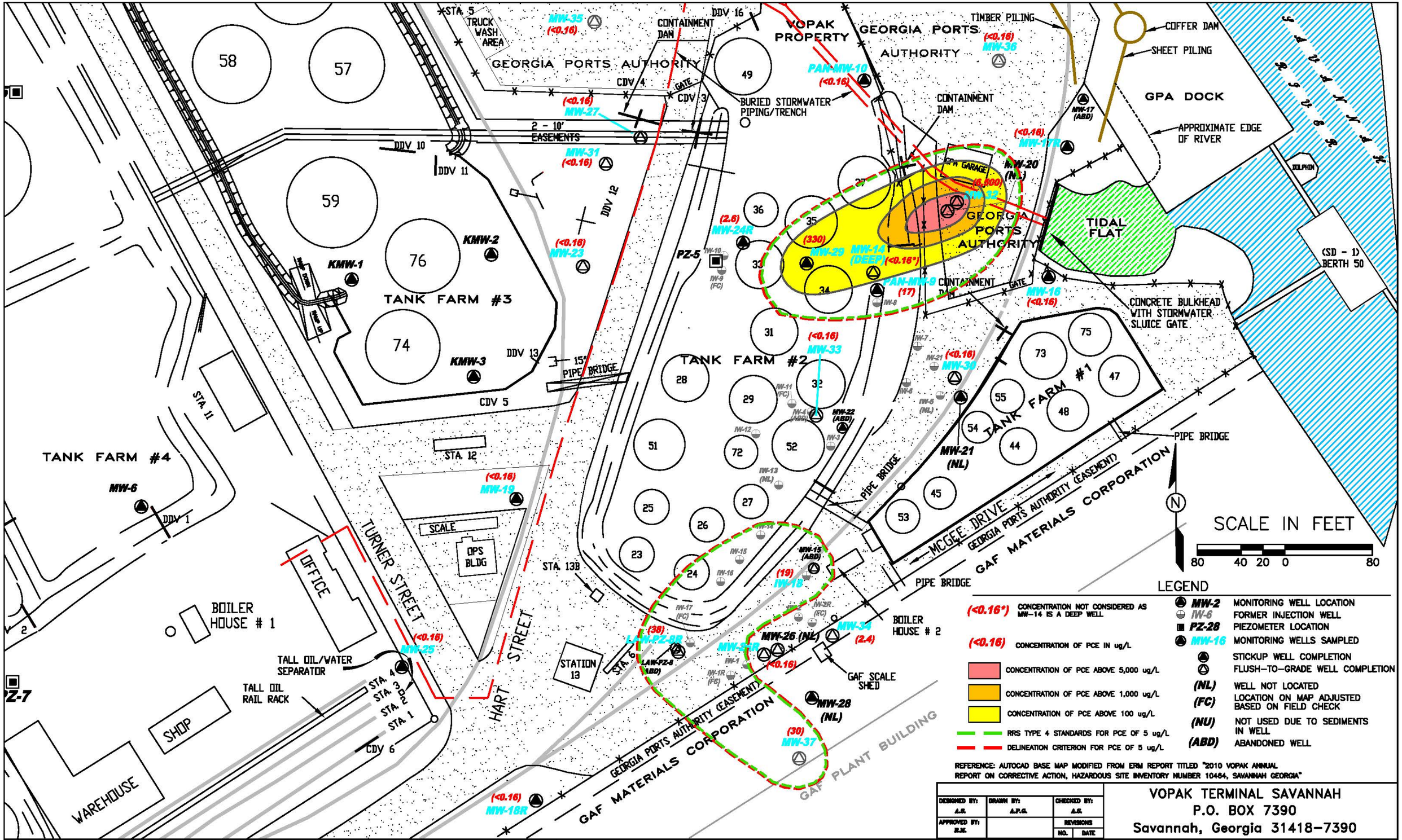
ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/26/2014 | FILE: 300230 - 7TH MNA SAMPLING | SHEET NO.:




LEGEND

| | |
|---|---|
| (<0.16*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (<0.16) | CONCENTRATION OF PCE IN ug/L |
| | CONCENTRATION OF PCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF PCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF PCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR PCE OF 5 ug/L |
| | DELINEATION CRITERION FOR PCE OF 5 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (NU) | NOT USED DUE TO SEDIMENTS IN WELL |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-7:
# PCE PLUME MAP
# JAN. 19-21, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | |
| APPROVED BY: E.M. | | REVISIONS NO. | DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/25/2014 | 390030 - TTH MNA SAMPLING | |

CONCENTRATION OF TCE ABOVE 5,000 ug/L
CONCENTRATION OF TCE ABOVE 1,000 ug/L
CONCENTRATION OF TCE ABOVE 100 ug/L
RRS TYPE 4 STANDARD FOR TCE OF 38 ug/L
DELINEATION CRITERION FOR TCE OF 5 ug/L

STA. 5
TRUCK WASH AREA
MW-35 (NI)
CONTAINMENT DAM
DDV 16
VOPAK PROPERTY
GEORGIA PORTS AUTHORITY
TIMBER PILING
MW-36 (NI)
COFFER DAM
SHEET PILING
GPA DOCK
APPROXIMATE EDGE OF RIVER
CDV 4
GATE
CDV 3
PAN-MW-10 (<0.19)
BURIED STORMWATER PIPING/TRENCH
CONTAINMENT DAM
MW-17 (ABD)
(<0.19) MW-27
2 - 10' EASEMENTS
DDV 10
DDV 11
MW-31 (NS)
DDV 12
(<0.19) MW-17R
MW-20 (NL)
(1,300) GARAGE
MW-32
(2.2) MW-24R
(<0.19) MW-23
PZ-5
(66) MW-29
(<0.19*) MW-14 (DEEP)
(440) PAN-MW-9
CONTAINMENT DAM
GATE
MW-16 (1.10)
TIDAL FLAT
(SD - 1) BERTH 50
KMW-1
KMW-2
KMW-3
TANK FARM #3
DDV 13
15" PIPE BRIDGE
(4.8) MW-33
TANK FARM #2
(<0.19) MW-30
CONCRETE BULKHEAD WITH STORMWATER SLUICE GATE
TANK FARM #1
CDV 5
STA. 11
STA. 12
MW-22 (ABD)
MW-21 (NL)
PIPE BRIDGE
TANK FARM #4
MW-6
DDV 1
(<0.19) MW-19
SCALE
OPS BLDG
TURNER STREET
OFFICE
STA. 13B
MW-18 (26)
MW-15 (ABD)
PIPE BRIDGE
MCGEE DRIVE
GEORGIA PORTS AUTHORITY (EASEMENT)
GAF MATERIALS CORPORATION
BOILER HOUSE # 1
(<0.19) MW-25
TALL OIL/WATER SEPARATOR
STA. 4
STA. 3
STA. 2
STA. 1
STATION 13
STA. 6
(8.5 J) LAW-PZ-8R
LAW-PZ-8 (ABD)
(<1.9) MW-26 (NL)
MW-34 (3.1)
BOILER HOUSE # 2
GAF SCALE SHED
TALL OIL RAIL RACK
SHOP
CDV 6
MW-28 (NL)
MW-37 (NI)
GAF PLANT BUILDING
WAREHOUSE
(<0.19) MW-16R

SCALE IN FEET
80 40 20 0 80

## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (NI) | WELL NOT YET INSTALLED AS OF OCTOBER 2013 |
| MW-16 (NL) | MONITORING WELLS SAMPLED WELL NOT LOCATED | (0.19) | CONCENTRATION OF TOLUENE IN ug/L |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (ABD) | ABANDONED WELL |
| (<0.19*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | (NS) | WELL NOT SAMPLED BECAUSE INACCESSIBLE, COVERED CONSTRUCTION MATERIAL |
| J | RESULT IS LESS THAN THE RL BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-8:
# TCE PLUME MAP
# OCTOBER 1 - 3, 2013

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.N. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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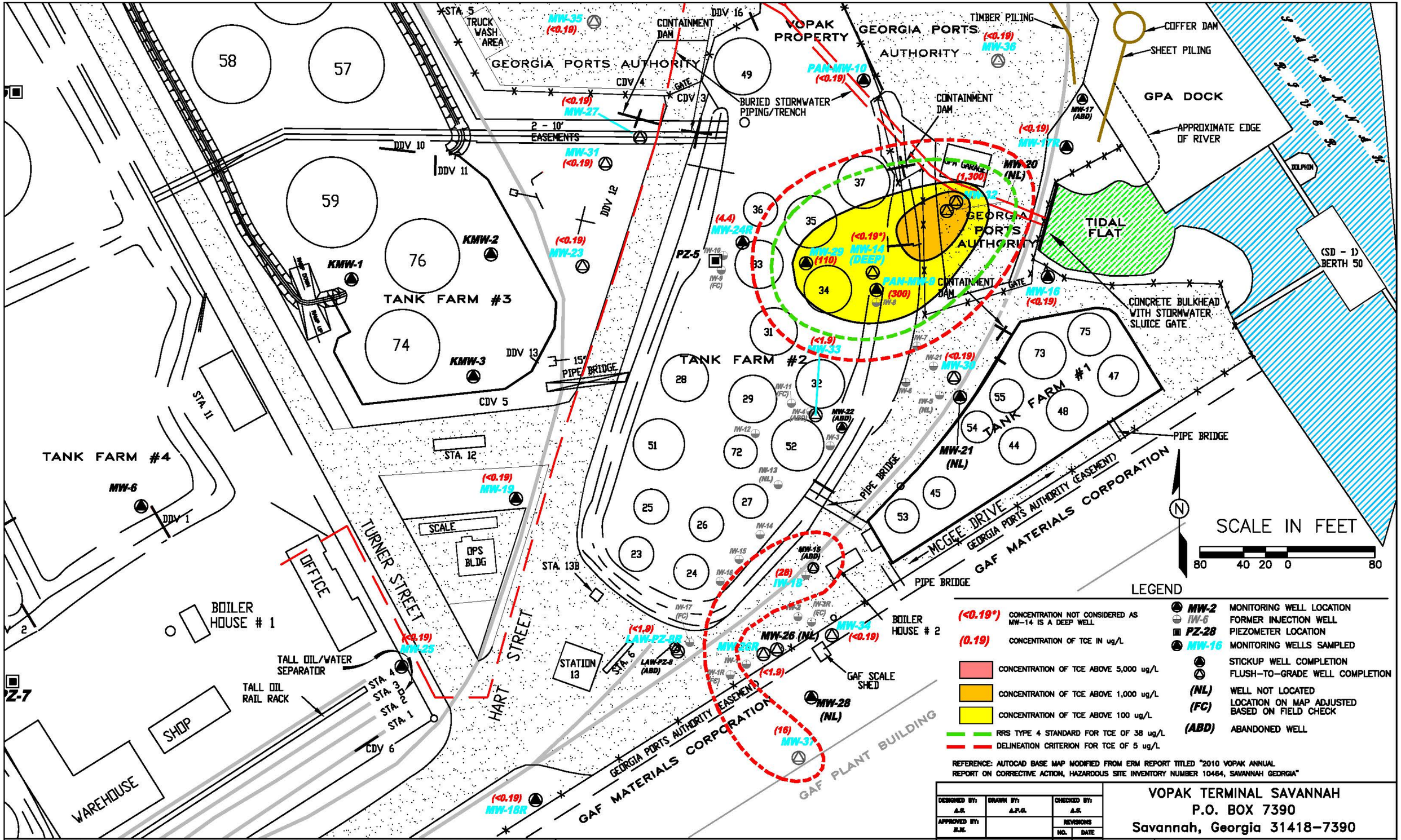
ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/25/2014 | FILE: 360030 - 7TH MNA SAMPLING | SHEET NO.:




## LEGEND

| | |
|---|---|
| (<0.19*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.19) | CONCENTRATION OF TCE IN ug/L |
| | CONCENTRATION OF TCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF TCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF TCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR TCE OF 38 ug/L |
| | DELINEATION CRITERION FOR TCE OF 5 ug/L |

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-9:
# TCE PLUME MAP
# JAN. 19-21, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.N. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/26/2014 | 300230 - TTH MNA SAMPLING | |

CONCENTRATION OF DCE ABOVE 5,000 ug/L
CONCENTRATION OF DCE ABOVE 1,000 ug/L
CONCENTRATION OF DCE ABOVE 100 ug/L
RRS TYPE 4 STANDARDS FOR DCE OF 1,022 ug/L
DELINEATION CRITERION FOR DCE OF 70 ug/L

STA. 5
TRUCK WASH AREA
MW-35 (NI)
CONTAINMENT DAM
DDV 16
VOPAK PROPERTY
GEORGIA PORTS AUTHORITY
TIMBER PILING
MW-36 (NI)
COFFER DAM
SHEET PILING
GPA DOCK
APPROXIMATE EDGE OF RIVER
PAN-MW-10 (0.76)
BURIED STORMWATER PIPING/TRENCH
CONTAINMENT DAM
MW-17 (ABD)
(<0.21) MW-17R
GPA GARAGE
MW-20 (NL)
(1,600) MW-32
GEORGIA PORTS AUTHORITY
TIDAL FLAT
(SD - 1) BERTH 50
CDV 4
GATE
CDV 3
(<0.21) MW-27
2 - 10' EASEMENTS
DDV 10
DDV 11
MW-31 (NS)
DDV 12
(<0.21) MW-23
PZ-5
(458) MW-24R
(<0.21*) MW-24 (DEEP)
(6,100) MW-33
(2,500) PAN-MW-2
CONTAINMENT DAM
GATE
MW-16 (110)
CONCRETE BULKHEAD WITH STORMWATER SLUICE GATE
KMW-1
KMW-2
KMW-3
TANK FARM #3
DDV 13
15" PIPE BRIDGE
TANK FARM #2
(800) MW-35
(6.2) MW-30
MW-22 (ABD)
CDV 5
STA. 11
STA. 12
TANK FARM #1
MW-21 (NL)
PIPE BRIDGE
TANK FARM #4
MW-6
DDV 1
(<0.21) MW-19
SCALE
OPS BLDG
TURNER STREET
OFFICE
STA. 13B
MW-15 (ABD)
(5,400) MW-18
MCGEE DRIVE
GEORGIA PORTS AUTHORITY (EASEMENT)
GAF MATERIALS CORPORATION
PIPE BRIDGE
BOILER HOUSE # 1
(<0.21) MW-25
TALL OIL/WATER SEPARATOR
TALL OIL RAIL RACK
STA. 4
STA. 3
STA. 2
STA. 1
HART STREET
STATION 13
LMW-PZ-2R (3,500)
LMW-PZ-2 (ABD)
(156) MW-26 (NL)
MW-34 (36)
GAF SCALE SHED
BOILER HOUSE # 2
MW-28 (NL)
MW-37 (NI)
GAF PLANT BUILDING
SHOP
WAREHOUSE
(<0.21) MW-18R
CDV 6
PZ-7

SCALE IN FEET
80 40 20 0 80

## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (NI) | WELL NOT YET INSTALLED AS OF OCTOBER 2013 |
| MW-16 (NL) | MONITORING WELLS SAMPLED WELL NOT LOCATED | (<0.21) | CONCENTRATION OF DCE IN ug/L |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (ABD) | ABANDONED WELL |
| (<0.21*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | (NS) | WELL NOT SAMPLED BECAUSE INACCESSIBLE, COVERED CONSTRUCTION MATERIAL |
| J | RESULT IS LESS THAN THE RL BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-10:
# CIS 1,2 - DCE PLUME
# OCTOBER 1 - 3, 2013

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

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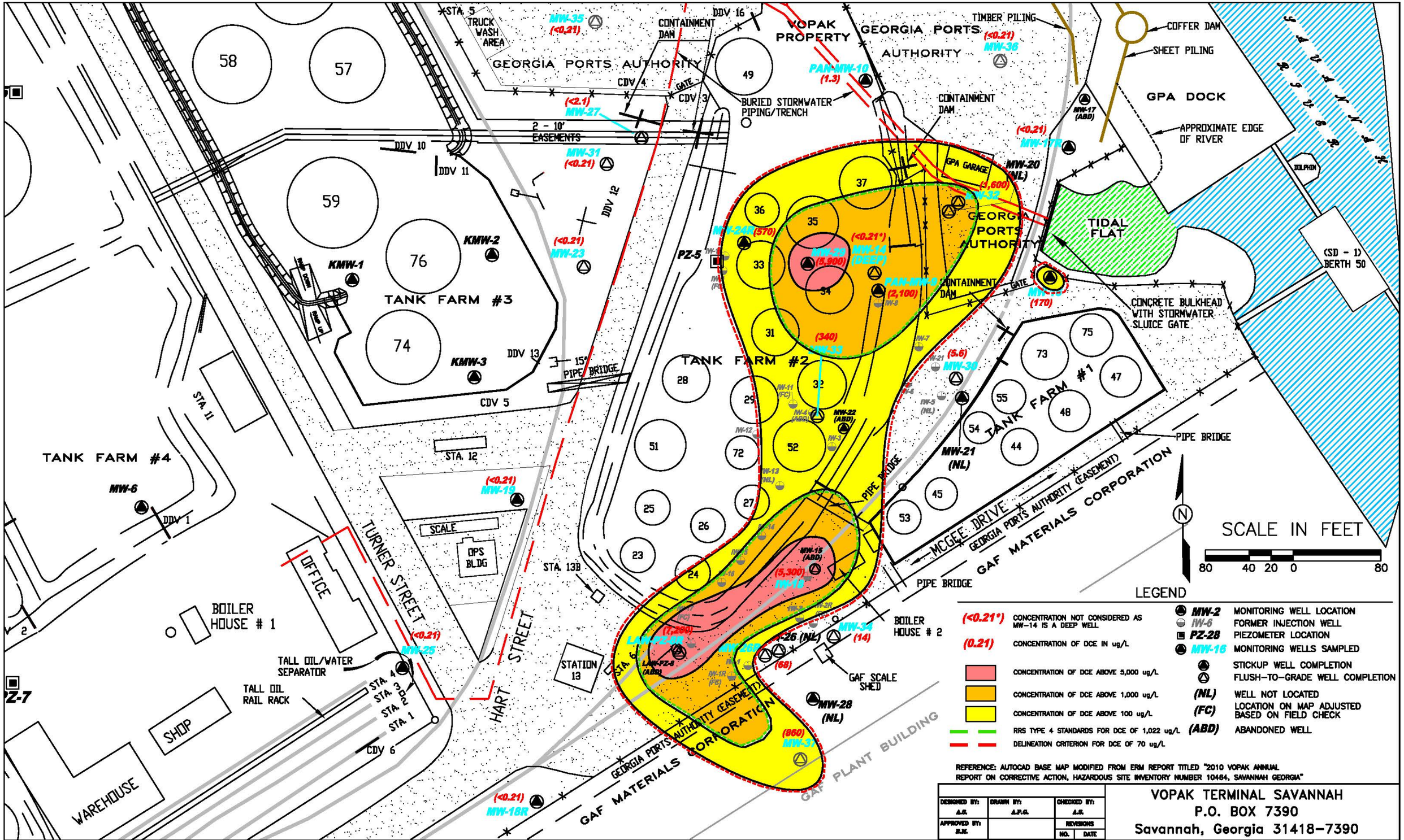
SEAL:

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 08/25/2014 | FILE: 390080 - TTH MNA SAMPLING | SHEET NO.:




LEGEND

| | |
|---|---|
| (<0.21*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.21) | CONCENTRATION OF DCE IN ug/L |
| | CONCENTRATION OF DCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF DCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF DCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR DCE OF 1,022 ug/L |
| | DELINEATION CRITERION FOR DCE OF 70 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10484, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-11:
# CIS 1,2 - DCE PLUME
# JAN 19 - 21, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.N. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/25/2014 | 300280 - 7TH MNA SAMPLING | |

CONCENTRATION OF VC ABOVE 5,000 ug/L
CONCENTRATION OF VC ABOVE 1,000 ug/L
CONCENTRATION OF VC ABOVE 100 ug/L
RRS TYPE 4 STANDARDS FOR VC OF 3 ug/L
DELINEATION CRITERION FOR VC OF 2 ug/L

STA. 5
TRUCK WASH AREA
MW-35 (NI)
CONTAINMENT DAM
DDV 16
VOPAK PROPERTY
GEORGIA PORTS AUTHORITY
TIMBER PILING
MW-36 (NI)
COFFER DAM
SHEET PILING
GPA DOCK
APPROXIMATE EDGE OF RIVER
SAVANNAH RIVER
DOLPHIN
PAN-MW-10 (<0.19)
CDV 4
CDV 3
GATE
BURIED STORMWATER PIPING/TRENCH
CONTAINMENT DAM
MW-17 (ABD)
(2.9) MW-27
2 - 10' EASEMENTS
DDV 10
DDV 11
MW-31 (NS)
DDV 12
(<0.19) MW-23
(<0.19) MW-17R
MW-30 (NL)
GPA GARAGE
(220) MW-32
GEORGIA PORTS AUTHORITY
TIDAL FLAT
(SD - 1) BERTH 50
(43) MW-24R
PZ-5
(760) MW-29
(<0.19*) MW-14 (DEEP)
PAN-MW-9 (76)
CONTAINMENT DAM
GATE
MW-16 (86)
CONCRETE BULKHEAD WITH STORMWATER SLUICE GATE
KMW-1
KMW-2
KMW-3
TANK FARM #3
DDV 13
15" PIPE BRIDGE
TANK FARM #2
(480) MW-33
MW-22 (ABD)
MW-39 (2.5)
TANK FARM #1
PIPE BRIDGE
CDV 5
STA. 11
STA. 12
TANK FARM #4
MW-6
DDV 1
(<0.19) MW-19
MW-21 (NL)
MCGEE DRIVE
GEORGIA PORTS AUTHORITY (EASEMENT)
GAF MATERIALS CORPORATION
SCALE
OPS BLDG
OFFICE
TURNER STREET
STA. 13B
HART STREET
BOILER HOUSE # 1
(<0.19) MW-25
TALL OIL/WATER SEPARATOR
TALL OIL RAIL RACK
STA. 4
STA. 3D2
STA. 1
CDV 6
STATION 13
STA. 3
(830) LAW-PZ-8R
LAW-PZ-8 (ABD)
(53) MW-26R
MW-26 (NL)
MW-34 (9.8)
BOILER HOUSE # 2
GAF SCALE SHED
MW-28 (NL)
MW-37 (NI)
GAF PLANT BUILDING
SHOP
WAREHOUSE
PZ-7
(<0.19) MW-18R
(970) MW-18
MW-15 (ABD)
IW-14
IW-15
IW-16
IW-17 (FC)
IW-13 (NL)
IW-12 (FC)
IW-2
IW-1
IW-1R (FC)
IW-11 (FC)
IW-4 (ABD)
IW-3
IW-5 (NL)
IW-6
IW-7
IW-8
IW-9 (FC)
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IW-91
IW-92
IW-93
IW-94
IW-95
IW-96
IW-97
IW-98
IW-99
IW-100

SCALE IN FEET
80 40 20 0 80

## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (NI) | WELL NOT YET INSTALLED AS OF OCTOBER 2013 |
| MW-16 | MONITORING WELLS SAMPLED | (<0.19) | CONCENTRATION OF TOLUENE IN ug/L |
| (NL) | WELL NOT LOCATED | (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (NS) | WELL NOT SAMPLED BECAUSE INACCESSIBLE, COVERED CONSTRUCTION MATERIAL |
| (<0.19*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | | |
| J | RESULT IS LESS THAN THE RL BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

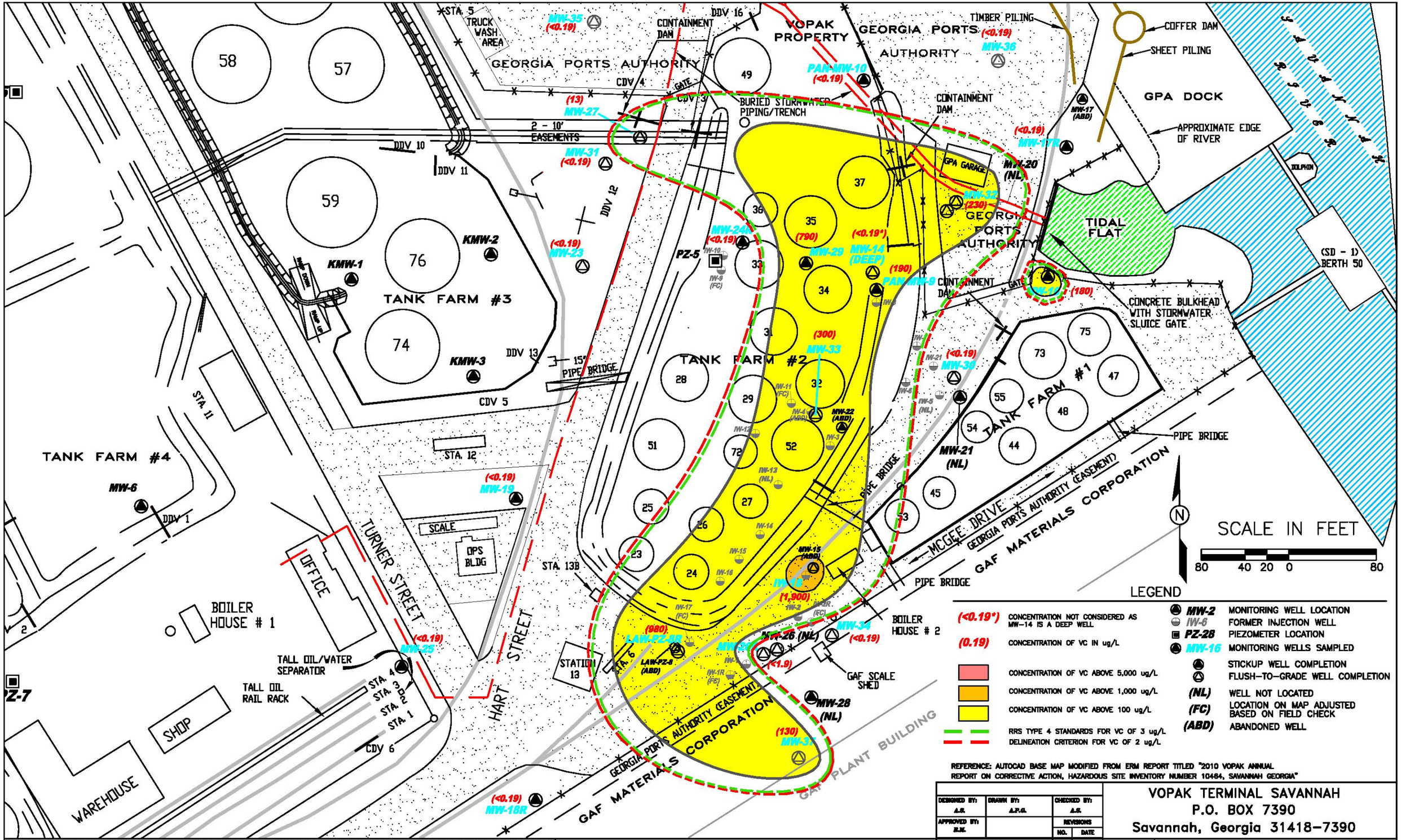
# FIGURE 4-12:
# VINYL CHLORIDE PLUME MAP
# OCTOBER 1 - 3, 2013

DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | APPROVED BY: R.M.
REVISIONS: NO. | DATE
SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/25/2014 | FILE: 390030 - TTH MNA SAMPLING | SHEET NO.:




LEGEND

| | |
|---|---|
| (<0.19*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.19) | CONCENTRATION OF VC IN ug/L |
| | CONCENTRATION OF VC ABOVE 5,000 ug/L |
| | CONCENTRATION OF VC ABOVE 1,000 ug/L |
| | CONCENTRATION OF VC ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR VC OF 3 ug/L |
| | DELINEATION CRITERION FOR VC OF 2 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-13:
# VINYL CHLORIDE PLUME MAP
# JAN. 19 - 21, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.N. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/26/2014 | 300230 - 7TH MNA SAMPLING | |

CONCENTRATION OF BENZENE ABOVE 5,000 ug/L
CONCENTRATION OF BENZENE ABOVE 1,000 ug/L
CONCENTRATION OF BENZENE ABOVE 100 ug/L
RRS TYPE 4 STANDARD FOR BENZENE OF 9 ug/L
DELINEATION CRITERION FOR BENZENE OF 5 ug/L

STA. 5
TRUCK WASH AREA
MW-35 (NI)
CONTAINMENT DAM
DDV 16
VOPAK PROPERTY
GEORGIA PORTS AUTHORITY
TIMBER PILING
MW-36 (NI)
COFFER DAM
SHEET PILING
GPA DOCK
APPROXIMATE EDGE OF RIVER
SAVANNAH RIVER
DOLPHIN
(SD - 1) BERTH 50
CDV 4
GATE
CDV 3
PAN-MW-10 (<0.16)
BURIED STORMWATER PIPING/TRENCH
CONTAINMENT DAM
MW-17 (ABD)
(<0.16) MW-27
2 - 10' EASEMENTS
DDV 10
DDV 11
MW-31 (NS)
DDV 12
(<0.16) MW-17R
GPA GARAGE
MW-20 (NL)
(<1.6) MW-32
GEORGIA PORTS AUTHORITY
TIDAL FLAT
(6.0) MW-24R
(<0.16*) MW-14 (DEEP)
(20) MW-29
PZ-5
(1.1) PAN-MW-9
CONTAINMENT DAM
GATE
MW-16 (0.83J)
CONCRETE BULKHEAD WITH STORMWATER SLUICE GATE
(<0.16) MW-23
KMW-1
KMW-2
KMW-3
TANK FARM #3
DDV 13
15" PIPE BRIDGE
TANK FARM #2
(1.8) MW-33
(<0.16) MW-30
MW-21 (NL)
TANK FARM #1
PIPE BRIDGE
CDV 5
STA. 11
STA. 12
TANK FARM #4
MW-6
DDV 1
(<0.16) MW-19
SCALE
OPS BLDG
TURNER STREET
OFFICE
STA. 13B
HART STREET
BOILER HOUSE # 1
(<0.16) MW-25
TALL OIL/WATER SEPARATOR
TALL OIL RAIL RACK
STA. 4
STA. 3D2
STA. 1
CDV 6
SHOP
WAREHOUSE
STATION 13
(1,500) LAW-PZ-2R
LAW-PZ-2 (ABD)
(33) MW-26R
MW-26 (NL)
MW-34 (1.3)
BOILER HOUSE # 2
GAF SCALE SHED
MW-28 (NL)
MW-37 (NI)
(<0.16) MW-18R
GEORGIA PORTS AUTHORITY (EASEMENT)
GAF MATERIALS CORPORATION
GAF PLANT BUILDING
MCGEE DRIVE
PIPE BRIDGE
IW-18 (26)
MW-15 (ABD)
MW-22 (ABD)
N

SCALE IN FEET
80 40 20 0 80

LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (NI) | WELL NOT YET INSTALLED AS OF OCTOBER 2013 |
| MW-16 | MONITORING WELLS SAMPLED | (<0.16) | CONCENTRATION OF BENZENE IN ug/L |
| (NL) | WELL NOT LOCATED | (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (NS) | WELL NOT SAMPLED BECAUSE INACCESSIBLE, COVERED CONSTRUCTION MATERIAL |
| (<0.16*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | J | RESULT IS LESS THAN THE RL BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-14:
# BENZENE PLUME MAP
# Oct 1-3, 2013

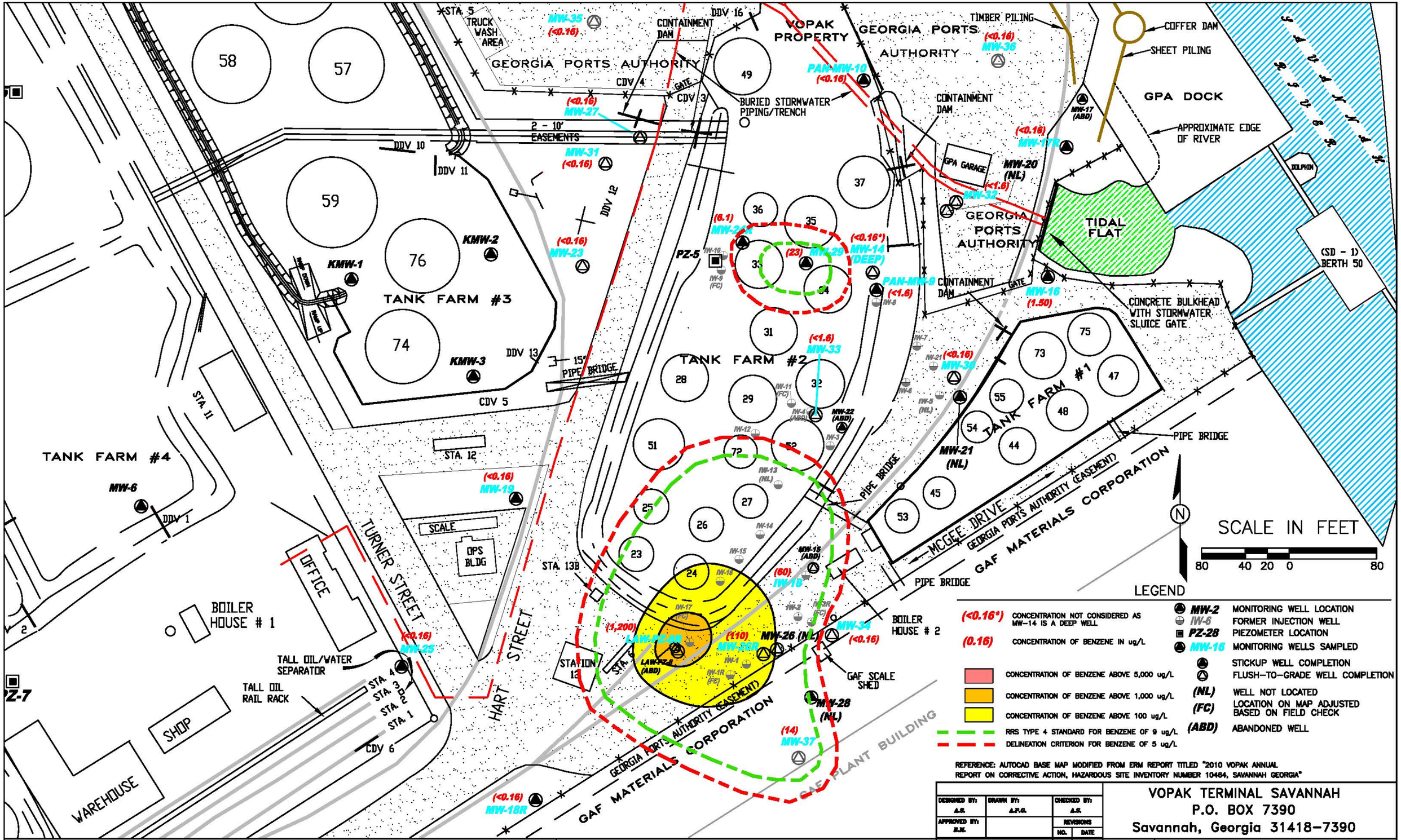
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | |
| APPROVED BY: E.M. | | REVISIONS NO. | DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/25/2014 | 390030 - TTH MNA SAMPLING | |




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10484, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-15:
# BENZENE PLUME MAP
# JAN. 19-21, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.N. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/26/2014 | 300230 - 7TH MNA SAMPLING | |

CONCENTRATION OF TOLUENE ABOVE 5,000 ug/L
CONCENTRATION OF TOLUENE ABOVE 1,000 ug/L
CONCENTRATION OF TOLUENE ABOVE 100 ug/L
RRS TYPE 4 STANDARD FOR TOLUENE OF 5,241 ug/L
DELINEATION CRITERION FOR TOLUENE OF 1,000 ug/L

STA. 5
TRUCK WASH AREA
MW-35 (NI)
CONTAINMENT DAM
DDV 16
VOPAK PROPERTY
GEORGIA PORTS AUTHORITY
TIMBER PILING
MW-36 (NI)
COFFER DAM
SHEET PILING
GPA DOCK
APPROXIMATE EDGE OF RIVER
SAVANNAH RIVER
DOLPHIN
(SD - 1) BERTH 50
CDV 4
CDV 3
GATE
PAN-MW-10 (<0.14)
BURIED STORMWATER PIPING/TRENCH
CONTAINMENT DAM
MW-17 (ABD)
(<0.14) MW-27
2 - 10' EASEMENTS
DDV 10
DDV 11
MW-31 (NS)
DDV 12
(<0.14) MW-17R
MW-20 (NL)
(7.2 J) MW-32
GPA GARAGE
GEORGIA PORTS AUTHORITY
TIDAL FLAT
(0.41J) MW-24R
(<0.14) MW-23
PZ-5
MW-29 (10J)
(3.5*) MW-14 (DEEP)
(1.5) PAN-MW-9
CONTAINMENT DAM
GATE
MW-16 (<0.14)
CONCRETE BULKHEAD WITH STORMWATER SLUICE GATE
KMW-1
KMW-2
KMW-3
TANK FARM #3
DDV 13
15" PIPE BRIDGE
TANK FARM #2
(2) MW-33
MW-22 (ABD)
MW-30 (<0.14)
TANK FARM #1
PIPE BRIDGE
STA. 11
CDV 5
STA. 12
TANK FARM #4
MW-6
DDV 1
(<0.14) MW-19
MW-21 (NL)
MCGEE DRIVE
GEORGIA PORTS AUTHORITY (EASEMENT)
GAF MATERIALS CORPORATION
SCALE
OPS BLDG
OFFICE
TURNER STREET
STA. 13B
(12) IW-18
MW-15 (ABD)
PIPE BRIDGE
BOILER HOUSE # 1
BOILER HOUSE # 2
(510) LAW-PZ-8R
(10J) MW-26R
(10J) MW-26 (NL)
MW-34 (<0.14)
STATION 13
STA. 6
HART STREET
GAF SCALE SHED
MW-28 (NL)
MW-37 (NI)
GAF PLANT BUILDING
TALL OIL/WATER SEPARATOR
TALL OIL RAIL RACK
STA. 4
STA. 3
STA. 2
STA. 1
CDV 6
SHOP
WAREHOUSE
(<0.14) MW-25
(<0.14) MW-16R
PZ-7

SCALE IN FEET
80 40 20 0 80

## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (NI) | WELL NOT YET INSTALLED AS OF OCTOBER 2013 |
| MW-16 | MONITORING WELLS SAMPLED | (<0.14) | CONCENTRATION OF TOLUENE IN ug/L |
| (NL) | WELL NOT LOCATED | (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (NS) | WELL NOT SAMPLED BECAUSE INACCESSIBLE, COVERED CONSTRUCTION MATERIAL |
| (3.5*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | J | RESULT IS LESS THAN THE RL BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-8, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-16:
# TOLUENE PLUME MAP
# Oct 1-3, 2013

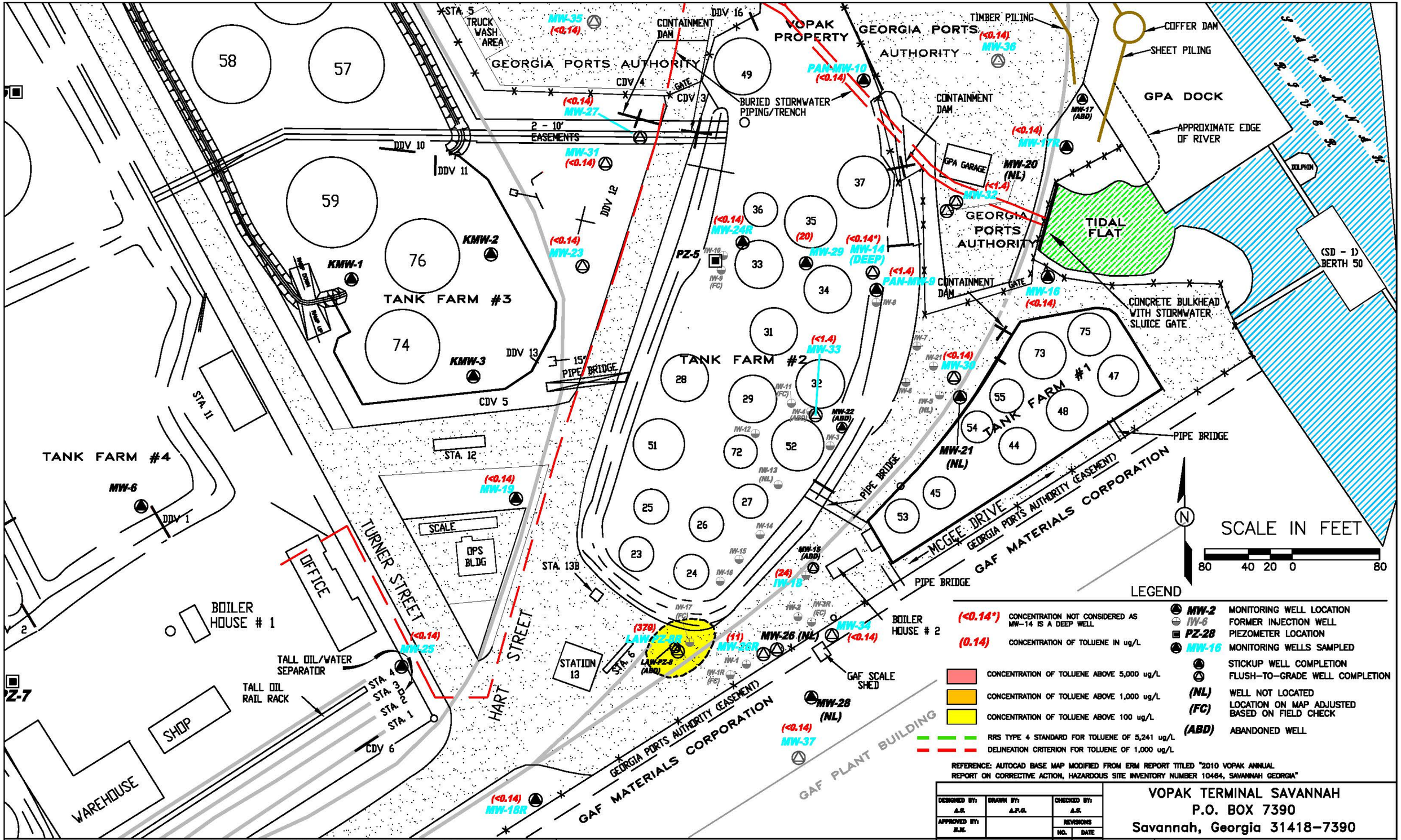
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.N. | | REVISIONS NO. | DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/26/2014 | FILE: 300030 - 7TH MNA SAMPLING | SHEET NO.:




LEGEND

| | |
|---|---|
| (<0.14*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.14) | CONCENTRATION OF TOLUENE IN ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR TOLUENE OF 5,241 ug/L |
| | DELINEATION CRITERION FOR TOLUENE OF 1,000 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-17:
# TOLUENE PLUME MAP
# JAN. 19-21, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.N. | | REVISIONS NO. | DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/26/2014 | FILE: 360030 - TTH MNA SAMPLING | SHEET NO.:

CONCENTRATION OF ETHYLBENZENE ABOVE 5,000 ug/L
CONCENTRATION OF ETHYLBENZENE ABOVE 1,000 ug/L
CONCENTRATION OF ETHYLBENZENE ABOVE 100 ug/L
RRS TYPE 4 STANDARD FOR ETHYLBENZENE OF 700 ug/L
DELINEATION CRITERION FOR ETHYLBENZENE OF 700 ug/L

STA. 5
TRUCK WASH AREA
MW-35 (NI)
CONTAINMENT DAM
DDV 16
VOPAK PROPERTY
GEORGIA PORTS AUTHORITY
TIMBER PILING
MW-36 (NI)
COFFER DAM
SHEET PILING
GPA DOCK
APPROXIMATE EDGE OF RIVER
57
49
CDV 4
GATE
CDV 3
PAN-MW-10 (<0.19)
BURIED STORMWATER PIPING/TRENCH
CONTAINMENT DAM
MW-17 (ABD)
(<0.19) MW-27
2 - 10' EASEMENTS
DDV 10
DDV 11
MW-31 (NS)
(0.83J) MW-17R
GPA GARAGE (160)
MW-20 (NL)
59
DDV 12
37
36
35
MW-32
(0.79J) MW-24R
(<0.19*)
GEORGIA PORTS AUTHORITY
TIDAL FLAT
(<0.19) MW-23
PZ-5
IW-10
IW-9 (FC)
MW-26 (1,200)
MW-14 (DEEP) (1,000)
PAN-MW-9
33
34
CONTAINMENT DAM
GATE
MW-16 (1:2)
(SD - 1) BERTH 50
KMW-2
KMW-1
76
TANK FARM #3
CONCRETE BULKHEAD WITH STORMWATER SLUICE GATE
74
KMW-3
DDV 13
15" PIPE BRIDGE
31
MW-33 (9)
TANK FARM #2
IW-7
IW-21 (<0.19) MW-30
75
73
47
55
48
TANK FARM #1
28
29
32
IW-11 (FC)
IW-4 (ABD)
MW-22 (ABD)
IW-6
IW-5 (NL)
54
44
PIPE BRIDGE
STA. 11
CDV 5
51
52
IW-12
72
IW-3
MW-21 (NL)
TANK FARM #4
IW-13 (NL)
45
MW-6
(<0.19) MW-19
STA. 12
25
27
PIPE BRIDGE
MCGEE DRIVE
GEORGIA PORTS AUTHORITY (EASEMENT)
GAF MATERIALS CORPORATION
DDV 1
SCALE
OPS BLDG
26
53
IW-14
23
24
IW-15
IW-16
MW-15 (ABD)
(56)
IW-18
TURNER STREET
OFFICE
STA. 13B
IW-17
IW-2
IW-2R (RC)
(6,800) IW-PZ-2R
IW-PZ-2 (ABD)
IW-25
(160)
MW-34 (<0.19)
BOILER HOUSE # 1
BOILER HOUSE # 2
(<0.19) MW-25
TALL OIL/WATER SEPARATOR
STA. 4
STA. 3D2
STA. 1
HART STREET
STATION 13
STA. 6
TALL OIL RAIL RACK
SHOP
CDV 6
GAF SCALE SHED
MW-28 (NL)
MW-37 (NI)
PZ-7
WAREHOUSE
(<0.19) MW-18R
GEORGIA PORTS AUTHORITY (EASEMENT)
GAF MATERIALS CORPORATION
GAF PLANT BUILDING

N

SCALE IN FEET
80 40 20 0 80

LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (NI) | WELL NOT YET INSTALLED AS OF OCTOBER 2013 |
| MW-16 | MONITORING WELLS SAMPLED | (<0.19) | CONCENTRATION OF PCE IN ug/L |
| (NL) | WELL NOT LOCATED | (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (NS) | WELL NOT SAMPLED BECAUSE INACCESSIBLE, COVERED CONSTRUCTION MATERIAL |
| (<0.19*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | | |
| J | RESULT IS LESS THAN THE RL BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-18:
# ETHYLBENZENE PLUME MAP
# Oct 1-3, 2013

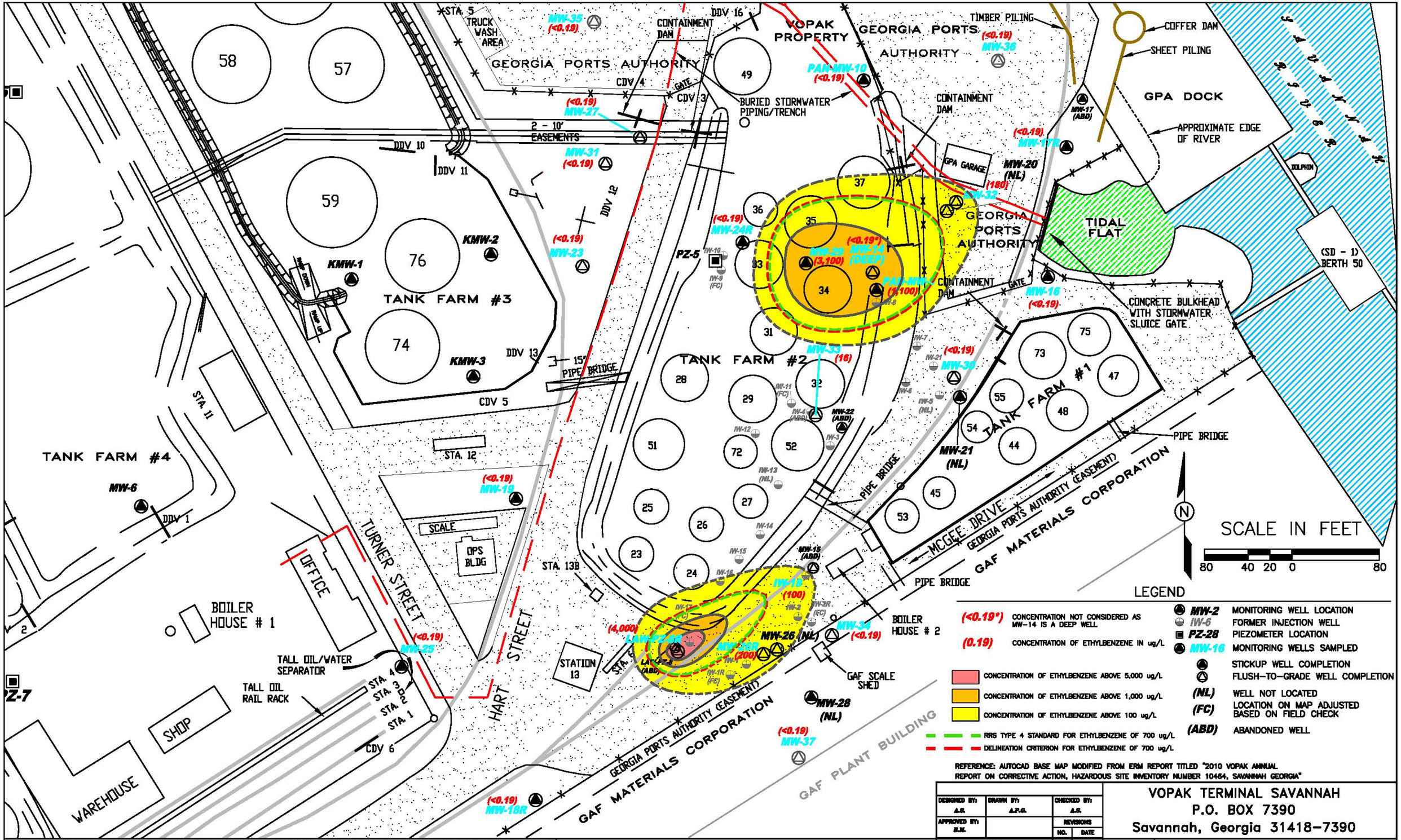
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/25/2014 | FILE: 390030 - TTH MNA SAMPLING | SHEET NO.:




LEGEND

| | |
|---|---|
| (<0.19*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.19) | CONCENTRATION OF ETHYLBENZENE IN ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR ETHYLBENZENE OF 700 ug/L |
| | DELINEATION CRITERION FOR ETHYLBENZENE OF 700 ug/L |

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-19:
# ETHYLBENZENE PLUME MAP
# JAN. 19-21, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.N. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| | | |
|---|---|---|
| SCALE: SEE BAR SCALE | DATE: 02/26/2014 | FILE: 300030 - 7TH MNA SAMPLING |

SHEET NO.:

CONCENTRATION OF XYLENES ABOVE 5,000 ug/L

CONCENTRATION OF XYLENES ABOVE 1,000 ug/L

CONCENTRATION OF XYLENES ABOVE 100 ug/L

RRS TYPE 4 STANDARD FOR XYLENES OF 10,000 ug/L

DELINEATION CRITERION FOR XYLENES OF 10,000 ug/L

STA. 5

TRUCK WASH AREA

MW-35 (NI)

CONTAINMENT DAM

DDV 16

VOPAK PROPERTY

GEORGIA PORTS AUTHORITY

TIMBER PILING

MW-36 (NI)

COFFER DAM

SHEET PILING

GPA DOCK

APPROXIMATE EDGE OF RIVER

57

49

PAN-MW-10 (<0.20)

BURIED STORMWATER PIPING/TRENCH

CONTAINMENT DAM

MW-17 (ABD)

CDV 4

GATE

CDV 3

(<0.20) MW-27

2 - 10' EASEMENTS

DDV 10

DDV 11

MW-31 (NS)

59

DDV 12

GPA GARAGE

MW-20 (NL)

(<0.20) MW-17R

(110) MW-32

37

36

35

(6.3) MW-24R

(<0.20) MW-23

PZ-5

IW-10

IW-9 (FC)

KMW-2

KMW-1

76

TANK FARM #3

MW-38 (2,500)

(<0.20*) MW-14 (DEEP)

(2,600) PAN-MW-9

33

34

IW-8

IW-7

CONTAINMENT DAM

GATE

MW-16 (3.6)

TIDAL FLAT

(SD - 1) BERTH 50

CONCRETE BULKHEAD WITH STORMWATER SLUICE GATE

74

KMW-3

DDV 13

15" PIPE BRIDGE

31

(26) MW-33

TANK FARM #2

IW-21

(<0.20) MW-30

IW-11 (FC)

IW-6

IW-5 (NL)

28

29

32

IW-4 (ABD)

MW-22 (ABD)

73

75

47

55

48

TANK FARM #1

54

44

MW-21 (NL)

PIPE BRIDGE

51

72

52

IW-12

IW-3

IW-13 (NL)

STA. 11

CDV 5

STA. 12

TANK FARM #4

MW-6

(<0.20) MW-19

25

27

45

PIPE BRIDGE

MCGEE DRIVE

GEORGIA PORTS AUTHORITY (EASEMENT)

GAF MATERIALS CORPORATION

53

DDV 1

SCALE

OPS BLDG

IW-14

IW-15

MW-15 (ABD)

IW-16

IW-18 (510)

23

24

26

TURNER STREET

OFFICE

STA. 13B

(110,000)

IW-17 (FC)

IW-2

IW-2R (FC)

MW-34 (<0.20)

BOILER HOUSE # 2

BOILER HOUSE # 1

2

TALL OIL/WATER SEPARATOR

(<0.20) MW-25

STATION 13

STA. 6

HART STREET

IW-1R

IW-8 (ABD)

(2,300) MW-18R

GAF SCALE SHED

TALL OIL RAIL RACK

STA. 4

STA. 3D2

STA. 1

CDV 6

MW-28 (NL)

MW-37 (NI)

SHOP

WAREHOUSE

(<0.20) MW-18R

GEORGIA PORTS AUTHORITY (EASEMENT)

GAF MATERIALS CORPORATION

GAF PLANT BUILDING

N

SCALE IN FEET

80 40 20 0 80

## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (NI) | WELL NOT YET INSTALLED AS OF OCTOBER 2013 |
| MW-16 | MONITORING WELLS SAMPLED | (<0.20) | CONCENTRATION OF TOTAL XYLENES IN ug/L |
| (NL) | WELL NOT LOCATED | (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (NS) | WELL NOT SAMPLED BECAUSE INACCESSIBLE, COVERED CONSTRUCTION MATERIAL |
| (<0.20*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | | |
| J | RESULT IS LESS THAN THE RL BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-20:
# TOTAL XYLENES PLUME MAP
# Oct 1-3, 2013

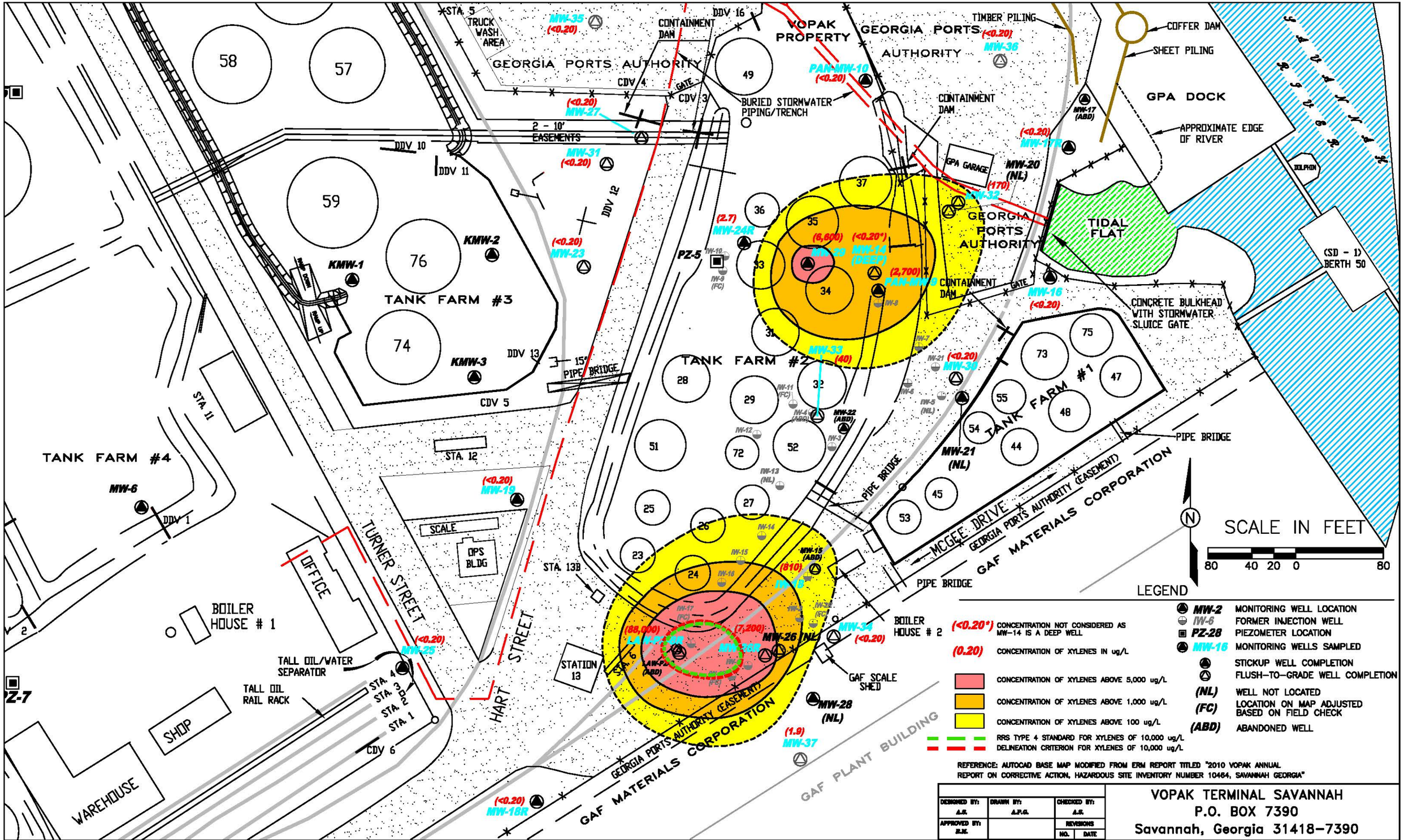
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/25/2014 | FILE: 390030 - TTH MNA SAMPLING | SHEET NO.:




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 4-21:
# TOTAL XYLENES PLUME MAP
# JAN. 19-21, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: A.P.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.N. | | REVISIONS NO. | DATE |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

SEAL:

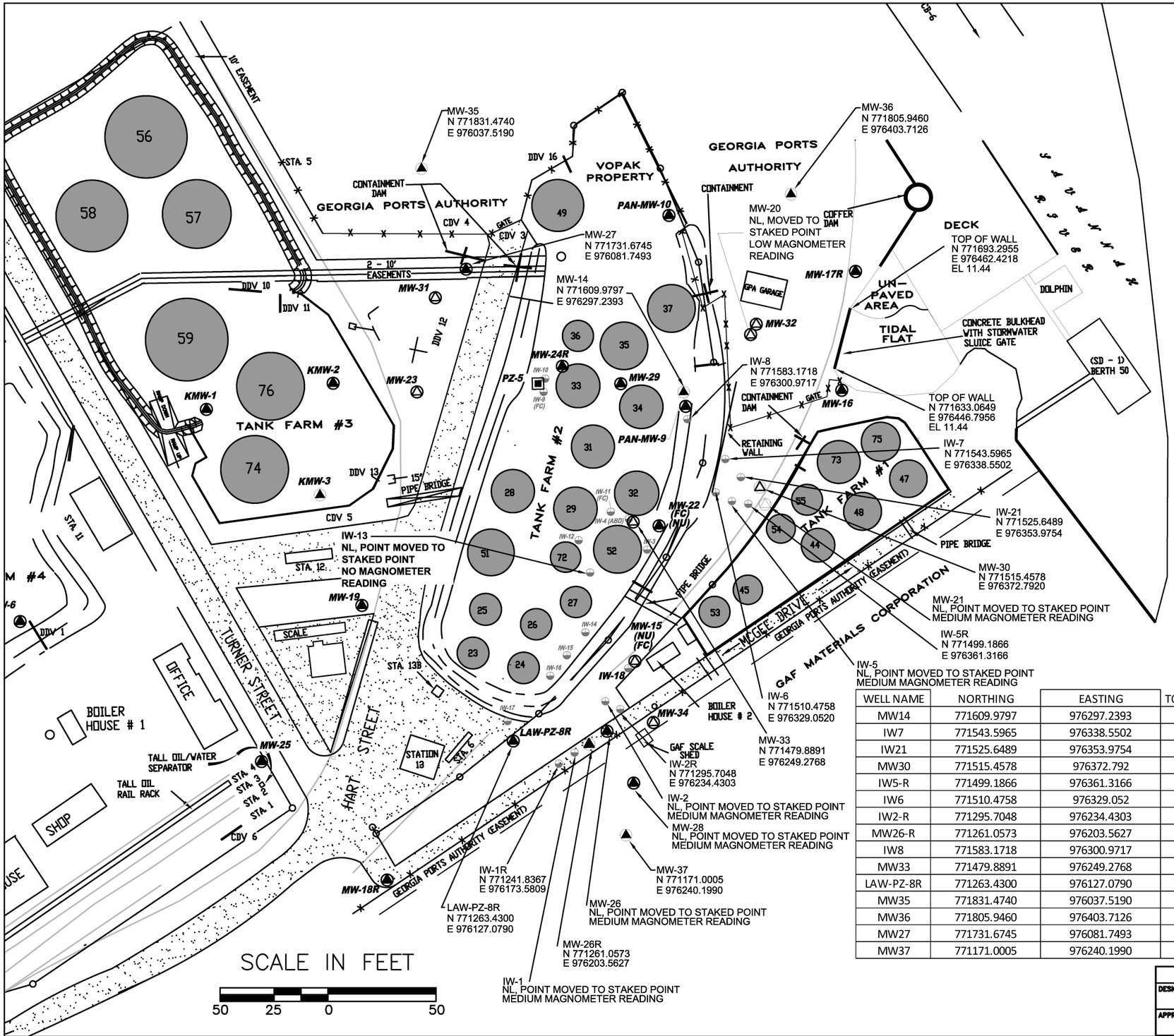
ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 02/25/2014 | FILE: 300230 - 7TH MNA SAMPLING | SHEET NO.:

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# FIFTH SEMIANNUAL PROGRESS REPORT

# ATTACHMENT A




## LEGEND

- MW-2 MONITORING WELL LOCATION
- PZ-28 PIEZOMETER LOCATION
- IW-8 FORMER INJECTION WELL
- MW-15 WELLS SAMPLED
- STICKUP WELL COMPLETION
- FLUSH-TO-GRADE WELL COMPLETION

(ABD) ABANDONED WELL
(NU) NOT USED DUE TO SEDIMENTS IN WELL
(NL) WELL NOT LOCATED
(FC) LOCATION ON MAP ADJUSTED TO APPROXIMATE LOCATION BASED ON FIELD CHECK

GEORGIA REGISTERED No. 2345 LAND SURVEYOR CHARLES W. TUTEN, JR
2274

| WELL NAME | NORTHING | EASTING | TOP OF CASE 88 DATUM | GROUND EL. 88 DATUM | TOP OF CASE 29 DATUM | GROUND EL. 29 DATUM |
|---|---|---|---|---|---|---|
| MW14 | 771609.9797 | 976297.2393 | 7.76 | 7.98 | 8.86 | 9.08 |
| IW7 | 771543.5965 | 976338.5502 | 10.34 | 10.47 | 11.44 | 11.57 |
| IW21 | 771525.6489 | 976353.9754 | 10.40 | 10.54 | 11.50 | 11.64 |
| MW30 | 771515.4578 | 976372.792 | 10.13 | 10.43 | 11.23 | 11.53 |
| IW5-R | 771499.1866 | 976361.3166 | 10.05 | 10.27 | 11.15 | 11.37 |
| IW6 | 771510.4758 | 976329.052 | 9.44 | 9.59 | 10.54 | 10.69 |
| IW2-R | 771295.7048 | 976234.4303 | 9.57 | 10.11 | 10.67 | 11.21 |
| MW26-R | 771261.0573 | 976203.5627 | 9.49 | 9.85 | 10.59 | 10.95 |
| IW8 | 771583.1718 | 976300.9717 | 12.16 | 8.65 | 13.26 | 9.75 |
| MW33 | 771479.8891 | 976249.2768 | 7.86 | 7.76 | 8.96 | 8.86 |
| LAW-PZ-8R | 771263.4300 | 976127.0790 | 8.12 | 8.49 | 9.22 | 9.59 |
| MW35 | 771831.4740 | 976037.5190 | 9.30 | 9.54 | 10.40 | 10.64 |
| MW36 | 771805.9460 | 976403.7126 | 9.32 | 9.45 | 10.42 | 10.55 |
| MW27 | 771731.6745 | 976081.7493 | 8.28 | 8.49 | 9.38 | 9.59 |
| MW37 | 771171.0005 | 976240.1990 | 10.47 | 10.50 | 11.57 | 11.60 |

NOTES:
1. ONLY WELLS SHOWN IN TABLE WHERE LOCATED AS PART OF THIS SURVEY
2. 1929 DATUM WAS OBTAINED BY ADDING 0.96' TO 1988 DATUM
3. BACKGROUND INFORMATION WAS PROVIDED BY ENVIRONMENTAL INTERNATIONAL CORPORATION

# BASE MAP

| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | S.K. | A.S. |
| APPROVED BY: | | REVISIONS |
| R.M. | | NO. / DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 1/28/2013 | 390033 - VTSI SURVEY | |

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# FIFTH SEMIANNUAL PROGRESS REPORT

# ATTACHMENT B

**ENVIRONMENTAL INTERNATIONAL CORPORATION** PAGE 1 OF 1

**WELL PURGING AND SAMPLING DATA LOG**

WELL/SAMPLE NO: LAW-PZ-8R

DATE: 10/3/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Partly cloudy ~88°F No wind, In direct sun

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 1.80 FT. to 11.80 FT.

INITIAL WATER LEVEL (BTOC): 6.92 FT. | TIME: 12:19 | BTOC WELL SCREEN INTERVAL: 6.10 FT. to 16.10 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.88 FT. | MEASURED TOTAL WELL DEPTH (BTOC): 15.88 FT. | HEIGHT OF STICK-UP: 4.3 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 1.0 BENEATH OUTER CAP: 0.9 BENEATH INNER CAP: 37.1

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 12:31 | 0 | 25.96 | 5.73 | 62 | 0.852 | 720 | 2.87 | NA | First pull has gray tint |
| 12:36 | 680 | 30.53 | 5.70 | -14 | 0.870 | 797 | 1.80 | NA | Some tan bacteria |
| 12:42 12:41 | 1580 | 30.59 | 5.66 | -30 | 0.883 | 742 | 1.20 | NA | Some air bubbles coming up |
| 12:47 | 2360 | 30.9 | 5.68 | -37 | 0.891 | 672 | 0.99 | NA | |
| 12:52 | 3320 | 30.70 | 5.67 | -39 | 0.900 | 589 | 0.4 | NA | |
| 12:57 | 3880 | 30.95 | 5.66 | -41 | 0.899 | 567 | 0.41 | NA | |
| 13:02 13:03 | 4920 | 31.30 | 5.68 | -45 | 0.910 | 361 | 0.4 | NA | |
| 13:10 | 5840 | 31.51 | 5.65 | -45 | 0.909 | 385 | 0.39 | NA | |
| 13:15 | 6200 | 31.52 | 5.63 | -42 | 0.910 | 310 | 0.36 | NA | |
| 13:17 | | | | | | | | 7.41 | |

COMMENTS: | SAMPLE COLLECTION TIME: 13:20 | PREPARED BY: Patrick Graggen

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 11.5 |
| Final tubing depth (ft.) BTOC | 11.5 |
| Initial pump speed | 4.04 |
| Time pump speed was initialized | 12:27 |
| Pump speed at flow into cylinder | 4.04 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 12:45 | 12:58 | 13:15 | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | 6200 | | | | | |

Additional remarks: gauged from black mark on North side of TOC

Very soft bottom when DTB measurement taken. Probe had black, slippery, and gritty substance on tip after DTB, no odor detected

water is gray/black in cylinder
small bubbles on inside of tubing

**ENVIRONMENTAL INTERNATIONAL CORPORATION** PAGE 1 OF 1

**WELL PURGING AND SAMPLING DATA LOG**

| | | | |
|---|---|---|---|
| DATE: 10/1/2013 | PROJECT NAME: VOPAK Savannah | WELL/SAMPLE NO: PAN-MW-9 | PROJECT NO: 390020 |

WEATHER CONDITIONS: clear skies ~82°F slight South breeze

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER — BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.66 FT. TIME: 10:23 — BTOC WELL SCREEN INTERVAL: 6.25 FT. to 16.25 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.78 FT. MEASURED TOTAL WELL DEPTH (BTOC): 14.77 FT. HEIGHT OF STICK-UP: 3.25 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.7 BENEATH OUTER CAP: 0.7 BENEATH INNER CAP: 34.2 - odor of turpentine

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco WATER ANALYZER MODEL: Horiba U-52 SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:44 | Ø | 23.05 | 4.99 | 100 | 0.771 | 70.1 | 2.75 | 7.59 | black particle in first pull |
| 10:49 | 700 | 24.04 | 4.96 | 89 | 0.714 | 62.4 | 2.60 | 8.09 | water is clear though |
| 10:54 | 1420 | 24.87 | 4.98 | 80 | 0.673 | 60.8 | 2.19 | 8.77 | |
| 10:59 | 2200 | 25.43 | 4.96 | 74 | 0.660 | 41.9 | 1.96 | 9.28 | |
| 11:04 | 2800 | 25.93 | 4.93 | 71 | 0.670 | 44.4 | 1.87 | 9.61 | |
| | | | | | | | | | |
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COMMENTS: SAMPLE COLLECTION TIME: 11:08

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | ~~5.0~~ 12.0 |
| Final tubing depth (ft.) BTOC | 12.0 |
| Initial pump speed | 4.08 |
| Time pump speed was initialized | 10:40 |
| Pump speed at flow into cylinder | 4.08 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

12:0

Reasonable attempts were made to lower Turbidity below 10 NTUs but due to time constraints, samples were collected

Pump speed slowed due to water level dropping
2260mL 11:00 → 3.53

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 10:57 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: water in cylinder is slightly cloudy w/ a yellowish/tan tint
Orange bacteria on tip of tubing when removed for sampling ~1" cut off
sample bottles have some tan & black bacteria in them

Soft bottom when DTB taken chloride & TDS sample collected

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: PAN-MW-10

DATE: 10/2/13 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny, clear day, little wind ~70°

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 10.28 FT. | TIME: 08:14 | BTOC WELL SCREEN INTERVAL: 6.68 FT. to 16.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.93 FT. | MEASURED TOTAL WELL DEPTH (BTO 15.9 FT. | HEIGHT OF STICK-UP: 3.68 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.00 BENEATH OUTER CAP: 0.3 BENEATH INNER CAP: 0.5

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 08:30 | 0 | 21.55 | 6.13 | 205 | 0.464 | 31 | 3.64 | 10.37 | first pull is clear |
| 08:35 | 500 | 22.64 | 6.13 | 204 | 0.455 | 42.4 | 2.40 | 10.36 | |
| 08:40 | 1060 | 23.09 | 6.16 | 201 | 0.452 | 44.9 | 2.31 | 10.36 | |
| 08:45 | 1640 | 23.33 | 6.08 | 199 | 0.451 | 40.6 | 1.87 | 10.36 | |

COMMENTS:

SAMPLE COLLECTION TIME: 08:47

PREPARED BY: April Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 13 |
| Final tubing depth (ft.) BTOC | 13 |
| Initial pump speed | 3.53 |
| Time pump speed was initialized | 08:25 |
| Pump speed at flow into cylinder | 3.53 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

13 ft

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: clear in cylinder

**ENVIRONMENTAL INTERNATIONAL CORPORATION** PAGE 1 OF 1

**WELL PURGING AND SAMPLING DATA LOG**

WELL/SAMPLE NO: MW14

DATE: 6/2/13 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: sunny, clear skies, ~85°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

INITIAL WATER LEVEL (BTOC): 6.17 FT. | TIME: 10:37 | BTOC WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): FT. | MEASURED TOTAL WELL DEPTH (BTOC): 49.57 FT. | HEIGHT OF STICK-UP: 0.00 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.1 | BENEATH OUTER CAP: 0.2 | BENEATH INNER CAP: 0.4

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:54 | 0 | 22.39 | 6.77 | 64 | 0.570 | 23.4 | 2.57 | 6.95 | first pull was clear |
| 10:59 | 1440 | 22.18 | 7.26 | 20 | 0.571 | 20.3 | 1.23 | 7.71 | gauged at black mark on |
| 11:04 | 2780 | 22.18 | 7.3 | 13 | 0.571 | 14.0 | 0.91 | 8.13 | top of casing |
| 11:10 | 4340 | 22.20 | 7.31 | 7 | 0.571 | 9.6 | 0.73 | 8.39 | |
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COMMENTS: | SAMPLE COLLECTION TIME: 11:11 | PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 47 |
| Initial tubing depth (ft.) BTOC | 45 |
| Final tubing depth (ft.) BTOC | 45 |
| Initial pump speed | 6.55 |
| Time pump speed was initialized | 10:51 |
| Pump speed at flow into cylinder | 6.55 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

$\frac{49.57 - 39.44}{2} = 5.07$

$0.589\ in^3/ft$ tubing

$49.51$

$2.52\ cm = 1\ in$

$\frac{16\ cm^3}{1\ in^3}\left(0.589\ \frac{in^3}{ft\ tube}\right) = 9.43\ \frac{cm^3}{ft\ tube}$

2,000 mL volume poured into bucket:

| Time | 11:08 | 11:08 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks: lightly cloudy in cylinder

Chloride + TDS samples collected

## ENVIRONMENTAL INTERNATIONAL CORPORATION

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## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-16

DATE: 10/3/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Scattered clouds ~ 75°F No breeze

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 11.86 FT. | TIME: 9:05 | BTOC WELL SCREEN INTERVAL: 8.13 FT. to 18.13 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 13.98 FT. | MEASURED TOTAL WELL DEPTH (BTOC): 14.02 FT. | HEIGHT OF STICK-UP: 3.18 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 4.0 | BENEATH OUTER CAP: 4.1 | BENEATH INNER CAP: 5.8

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:29 | 0 | 21.69 | 5.92 | 118 | 0.523 | 112 | 2.21 | NA | First pull is clear |
| 9:34 | ~~360~~ 22.16 | 22.16 | 5.78 | 66 | 0.525 | 93.2 | 1.35 | NA | ~~orange bubbles in cylinder~~ |
| 9:39 | 660 | 22.35 | 5.76 | 35 | 0.528 | 72.5 | 1.10 | NA | water in cylinder is slightly |
| 9:44 | 960 | 22.52 | 5.75 | 23 | 0.533 | 59.4 | 0.93 | NA | cloudy with a tan tint |
| 9:49 | 1300 | 22.54 | 5.65 | 23 | 0.532 | 66.0 | 0.73 | NA | |
| 9:54 | 1620 | 22.61 | 5.57 | 22 | 0.528 | 89.0 | 0.64 | NA | |
| 10:14 | | | | | | | | 12.17 | |

COMMENTS:

SAMPLE COLLECTION TIME: 9:56

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 13.5 |
| Final tubing depth (ft.) BTOC | 13.5 |
| Initial pump speed | 2.48 |
| Time pump speed was initialized | 9:19 |
| Pump speed at flow into cylinder | 2.48 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

Sampled by using new silicon tubing and connecter piece to horiba and then cutting tube ~~that~~ between pump & horiba,
Chloride & TDS samples collected

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Tidal Water in tidal flat is completely submerging the sluice gate

**ENVIRONMENTAL INTERNATIONAL CORPORATION** PAGE 1 OF 1

**WELL PURGING AND SAMPLING DATA LOG**

WELL/SAMPLE NO: MW-17 R

DATE: 10/2/13 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: sunny, partly cloudy, ~77°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.60 FT. to 20.60 FT.

INITIAL WATER LEVEL (BTOC): 10.68 FT. | TIME: 16:26 | BTOC WELL SCREEN INTERVAL: 9.12 FT. to 24.12 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.99 FT. | MEASURED TOTAL WELL DEPTH (BTO 23.96 FT. | HEIGHT OF STICK-UP: 3.52 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 4.4

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:41 ~~16:40~~ | 0 | 28.20 | 6.18 | 70 | 0.276 | 49.1 | 3.00 | NA | dk black bacteria near |
| 16:46 | 700 | 27.37 | 6.18 | 0 | 0.277 | 1.61 | 2.5 | NA | begining flow |
| 16:51 | 1320 | 27.07 | 6.17 | -11 | 0.276 | 120 | 2.27 | NA | |
| 16:56 | 1880 | 27.15 | 6.18 | -16 | 0.278 | 72.8 | 2.25 | NA | |
| 17:01 | 2280 | 27.42 | 6.17 | -19 | 0.278 | 50.4 | 2.12 | NA | |
| 17:06 | 2680 | 27.27 | 6.16 | -20 | 0.274 | 37.50 | 2.10 | NA | |
| 17:11 | 3180 | 27.18 | 6.15 | -19 | 0.278 | 30.0 | 2.06 | NA | |
| 17:16 | 3480 | 27.23 | 6.15 | -19 | 0.280 | 28.8 | 2.09 | NA | |
| 17:18 | | | | | | | | 17.64 | |

COMMENTS: | SAMPLE COLLECTION TIME: 17:20 | PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 21.5 |
| Initial tubing depth (ft.) BTOC | 18 |
| Final tubing depth (ft.) BTOC | 18 |
| Initial pump speed | 3.90 |
| Time pump speed was initialized | 16:36 |
| Pump speed at flow into cylinder | 3.90 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

$\frac{24.12 - 10.68}{2} = 6.72$

$6.72 + 10.68 =$

16:54 - large air bubbles coming up, pump slowed to 3.05

Cylinder at 1820 mL

2,000 mL volume poured into bucket:

| Time | 16:58 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: @ tidal flat 2½-3 ft below high water mark on bulkhead wall

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: IW-18

DATE: 10/3/13 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: sunny, partly cloudy, ~78°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 3.30 FT. | TIME: 10:42 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 19.3 FT. | MEASURED TOTAL WELL DEPTH (BTO 19.28 FT. | HEIGHT OF STICK-UP: 0.33 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 10.9 | BENEATH OUTER CAP: 285 | BENEATH INNER CAP: 1310 ,, 2600 ,, 2663

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:53 | 0 | 22.74 | 4.67 | 108 | 1.29 | 178 | 3.50 | NA | first pull is clear in tube |
| 11:00 | 940 | 26.32 | 4.64 | 103 | 1.29 | 120 | 0.98 | NA | some black bacteria in water |
| 11:06 | 1400 | 25.80 | 4.58 | 100 | 1.32 | 92.3 | 0.7 | NA | |
| 11:11 | 1700 | 26.13 | 4.59 | 95 | 1.43 | 73.5 | 0.58 | NA | |
| 11:16 | 1940 | 26.43 | 4.58 | 92 | 1.52 | 76.4 | 0.53 | NA | |
| 11:21 | 2240 | 26.77 | 4.57 | 91 | 1.67 | 69.2 | 0.51 | NA | |
| 11:26 | 2520 | 27.10 | 4.56 | 90 | 1.72 | 64.1 | 0.50 | NA | |
| 11:31 | 2820 | 27.35 | 4.55 | 89 | 1.72 | 65.7 | 0.47 | NA | |
| 11:34 | | | | | | | | 6.55 | |

COMMENTS:

SAMPLE COLLECTION TIME: 11:36

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 15 |
| Final tubing depth (ft.) BTOC | 15 |
| Initial pump speed | 4.00 |
| Time pump speed was initialized | 10:39 |
| Pump speed at flow into cylinder | 4.10 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 11:17 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: probe has a sewer odor after doing depth to bottom
@940 mL at 11:00 slowed pump to 2.99, due to significant amount of air bubbles
cloudy with yellow tint to it in cylinder
@ 1540 mL at 11:08 slowed to 2.08 due to air bubbles in tubing

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-18 R

DATE: 10/1/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny, clear skies, ~80°F, slight wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.97 FT. | TIME: 17:53 | BTOC WELL SCREEN INTERVAL: 6.66 FT. to 16.66 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.61 FT. | MEASURED TOTAL WELL DEPTH (BTO 16.55 FT. | HEIGHT OF STICK-UP: 3.66 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 0.8

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:54 | 0 | 29.05 | 4.65 | 160 | 0.358 | 109 | 3.66 | | first pull clear |
| 17:59 | 700 | 28.08 | 4.33 | 196 | 0.336 | 56 | 2.25 | | |
| 18:05 | 1600 | 28.00 | 4.36 | 209 | 0.325 | 30.7 | 1.39 | | |
| 18:10 | 2380 | 28.01 | 4.43 | 214 | 0.323 | 23.9 | 1.18 | | |
| 18:15 | 3100 | 27.41 | 4.46 | 219 | 0.323 | 19.2 | 0.99 | | |
| 18:21 | 4000 | 27.71 | 4.5 | 223 | 0.319 | 17.4 | 0.84 | | |
| 18:27 | | | | | | | | 7.00 | |

COMMENTS:

SAMPLE COLLECTION TIME: 18:28

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

Reasonable attempts were made to lower turbidity below 10 NTUs but due to tight formation, samples were collected.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12 |
| Final tubing depth (ft.) BTOC | ~~20~~ 12 |
| Initial pump speed | 4.1 |
| Time pump speed was initialized | 17:50 |
| Pump speed at flow into cylinder | 4.1 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

$\frac{16.55 - 6.97}{2} = 4.79$

$4.79 + 6.97 = 11.76$

2,000 mL volume poured into bucket: 18:07 18:21

| Time | 18:07 | 18:21 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks: clear in cylinder

**ENVIRONMENTAL INTERNATIONAL CORPORATION** PAGE 1 OF 1

**WELL PURGING AND SAMPLING DATA LOG**

WELL/SAMPLE NO: MW-19

DATE: 10/3/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Partly cloudy, Sun going down ~ 73°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.38 FT. to 13.38 FT.

INITIAL WATER LEVEL (BTOC): 7.38 FT. | TIME: 18:39 | BTOC WELL SCREEN INTERVAL: 7.58 FT. to 17.58 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 17.97 FT. | MEASURED TOTAL WELL DEPTH (BTOC): 17.96 FT. | HEIGHT OF STICK-UP: 4.2 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 5.3 BENEATH OUTER CAP: 5.5 BENEATH INNER CAP: 8.2

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 18:48 | 0 | 26.66 | 6.21 | 8.0 | 0.890 | 31.1 | 3.4 | NA | First pull clear with slight tan tint and black bacteria |
| 18:53 | 780 | 26.66 | 6.11 | 16.0 | 0.937 | 12.8 | 1.6 | NA | |
| 18:58 | 1560 | 26.7 | 6.09 | 21.0 | 0.949 | 5.6 | 1.08 | NA | |
| 19:03 | 2240 | 26.66 | 6.1 | 23.0 | 0.950 | 4.1 | 0.82 | NA | |
| 19:04 | | | | | | | | 7.6 | |

COMMENTS:

SAMPLE COLLECTION TIME: 19:05

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 13.0 |
| Final tubing depth (ft.) BTOC | 13.0 |
| Initial pump speed | 4.11 |
| Time pump speed was initialized | 18:45 |
| Pump speed at flow into cylinder | 4.11 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 19:01 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks:

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-23

DATE: 10/1/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear skies ~85°F slight S. Breeze

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.15 FT. to 11.15 FT.

INITIAL WATER LEVEL (BTOC): 4.72 FT. | TIME: 15:54 | BTOC WELL SCREEN INTERVAL: 5.90 FT. to 10.90 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 11.72 FT. | MEASURED TOTAL WELL DEPTH (BTOC) 11.68 FT. | HEIGHT OF STICK-UP: 0.25 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:28 | 0 | 28.72 | 6.43 | 61 | 0.900 | 348 | 1.77 | NA | first pull has reddish orange tint |
| 16:33 | 760 | 28.36 | 6.48 | 35 | 0.916 | 361 | 1.11 | NA | |
| 16:38 | 1540 | 27.99 | 6.48 | 20 | 0.973 | 274 | 0.96 | NA | |
| 16:44 16:43 | 2500 | 27.62 | 6.51 | 6 | 0.981 | 137 | 0.90 | NA | |
| 16:48 | 3100 | 28.09 | 6.52 | -2 | 0.962 | 76.4 | 0.78 | NA | |
| 16:53 | 3860 | 27.95 | 6.51 | -8 | 0.968 | 55.6 | 0.73 | NA | |
| 16:58 | 4600 | 27.75 | 6.51 | -15 | 0.968 | 36.5 | 0.76 | NA | |
| 17:00 | | | | | | | | 14.92 | |

COMMENTS:

SAMPLE COLLECTION TIME: 17:00

PREPARED BY: Patricia Gregson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 8.5 |
| Final tubing depth (ft.) BTOC | 8.5 |
| Initial pump speed | 4.04 |
| Time pump speed was initialized | ~~16:10~~ 16:24 |
| Pump speed at flow into cylinder | 4.04 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

~~4.7~~ + 6.4 = ~~11.1~~

(10.9 - 4.7) / 2 = 3.1

Reasonable attempts were made to lower turbidity below 10 NTUs but due to time constraints, samples were collected

2,000 mL volume poured into bucket:

| Time | 16:40 | 16:54 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4060 | | | | | | |

Additional remarks: Soft bottom when DTB measurement taken Orange tint and cloudy in cylinder

## ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-24 R

DATE: 10/2/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear skies ~73°F no Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 6.32 FT. | TIME: 9:16 | BTOC WELL SCREEN INTERVAL: 8.68 FT. to 18.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 18.15 FT. | MEASURED TOTAL WELL DEPTH (BTOC): 18.4 FT. | HEIGHT OF STICK-UP: 3.73 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 1.0 BENEATH OUTER CAP: 1.0 BENEATH INNER CAP: 1.1

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:31 | 0 | 21.02 | 4.47 | 182 | 0.573 | 250 (220) | 2.24 | NA | First pull clear with substantial |
| 9:37 9:36 | 760 | 21.15 | 4.47 | 161 | 0.565 | 335 | 0.87 | NA | tan bacteria |
| 9:42 | 1400 | 21.28 | 4.51 | 159 | 0.539 | 151 | 0.65 | NA | Few air bubbles coming up |
| 9:47 | 2000 | 21.21 | 4.53 | 157 | 0.530 | 109 | 0.59 | NA | |
| 9:52 | 2560 | 21.19 | 4.55 | 156 | 0.521 | 97.6 | 0.56 | NA | |
| 9:57 | 3100 | 21.25 | 4.56 | 155 | 0.52 | 60.4 | 0.53 | NA | |
| 10:02 | 3660 | 21.27 | 4.56 | 155 | 0.518 | 42.5 | 0.53 | NA | |
| 10:04 | — | — | — | — | — | — | | 8.71 | |

COMMENTS:

SAMPLE COLLECTION TIME: 10:07

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 14.0 |
| Final tubing depth (ft.) BTOC | 14.0 |
| Initial pump speed | 4.00 |
| Time pump speed was initialized | 9:27 |
| Pump speed at flow into cylinder | 4.00 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

9:43

3.53 1680 mL

Pump speed decreased due to large amount of air bubbles in tubing

2,000 mL volume poured into bucket:

| Time | 9:47 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: water in cylinder is cloudy with tan tint samples had large amounts of tan bacteria in them

**ENVIRONMENTAL INTERNATIONAL CORPORATION** PAGE 1 OF 1

**WELL PURGING AND SAMPLING DATA LOG**

WELL/SAMPLE NO: MW-25

DATE: 10/3/13 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: partly cloudy, ~70°F, no ~~wind~~ noticeable wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.40 FT. to 16.40 FT.

INITIAL WATER LEVEL (BTOC): 7.35 FT. | TIME: 17:51 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 17.93 FT. | MEASURED TOTAL WELL DEPTH (BTO 17.91 FT. | HEIGHT OF STICK-UP: 3.27 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 1.3 BENEATH OUTER CAP: 1.2 BENEATH INNER CAP: 5.8

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 18:03 | 0 | 27.64 | 5.90 | 72 | 0.798 | 112 | 3.62 | NA | first pull is clear, no particles |
| 18:07 | 720 | 27.17 | 6.0 | 16 | 0.888 | 24.1 | 1.75 | NA | |
| 18:13 | 1460 | 27.11 | 6.05 | -14 | 0.937 | 11.0 | 1.70 | NA | |
| 18:18 | 2220 | 27.02 | 6.07 | -40 | 0.946 | 12.3 | 1.41 | NA | |
| 18:23 | 3000 | 26.99 | 6.08 | -50 | 0.947 | 7.1 | 1.18 | NA | |
| 18:24 | | | | | | | | 7.55 | |

COMMENTS:

SAMPLE COLLECTION TIME: 18:25

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 14.0 |
| Final tubing depth (ft.) BTOC | 14.0 |
| Initial pump speed | 4.01 |
| Time pump speed was initialized | 18:00 |
| Pump speed at flow into cylinder | 4.01 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 18:16 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: sandy/silty material on probe after depth to bottom reading)
Orange bacteria on tubing after removal from well

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-26R

DATE: 10/3/13 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: partly cloudy, slight wind, ~75°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.10 FT. to 15.10 FT.

INITIAL WATER LEVEL (BTOC): 3.67 FT. | TIME: 16:46 | BTOC WELL SCREEN INTERVAL: 4.80 FT. to 14.80 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.51 FT. | MEASURED TOTAL WELL DEPTH (BTO 14.51 FT. | HEIGHT OF STICK-UP: 0.3 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 1.2 | BENEATH OUTER CAP: 5.9 | BENEATH INNER CAP: 2663 + >

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:57 | 0 | 29.52 | 5.75 | 93 | 0.473 | 115 | 2.13 | NA | first pull is clear with grey tint to it little bit of black bacteria |
| 17:03 | 960 | 29.04 | 5.70 | 70 | 0.402 | 92.0 | 0.87 | NA | |
| 17:10 | 1140 | 28.85 | 5.66 | 54 | 0.393 | 49 | 0.83 | NA | |
| 17:17 | 2140 | 28.81 | 5.66 | 43 | 0.395 | 36.4 | 0.75 | NA | |
| 17:22 | 2840 | 28.76 | 5.65 | 38 | 0.395 | 23.9 | 0.71 | NA | |
| 17:27 | 3580 | 28.76 | 5.65 | 34 | 0.396 | 13.2 | 0.63 | NA | |
| 17:32 | 4360 | 28.69 | 5.65 | 31 | 0.399 | 9.8 | 0.61 | NA | |
| 17:33 | — | — | — | — | — | — | — | 4.7 | |

TDS
0.263
0.261
0.255
0.257
0.257
0.257
0.259

COMMENTS: | SAMPLE COLLECTION TIME: 17:34

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 10.5 |
| Final tubing depth (ft.) BTOC | 10.5 |
| Initial pump speed | 3.98 |
| Time pump speed was initialized | 16:55 |
| Pump speed at flow into cylinder | 3.98 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 17:03 | 17:16 | 17:30 | | | | | |
| Cummulative Volume (mL) | 960 | 2100 | 4000 | | | | | |

Additional remarks: blackish grey in cylinder, lots of air bubbles in tubing during pumping

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-27

DATE: 10/1/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear skies ~85°F slight Southern breeze

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 7.79 FT. to 17.79 FT.

INITIAL WATER LEVEL (BTOC): 5.35 FT. | TIME: 14:53 | BTOC WELL SCREEN INTERVAL: 8.09 FT. to 18.09 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.42 FT. | MEASURED TOTAL WELL DEPTH (BTO 14.41 FT. | HEIGHT OF STICK-UP: 0.3 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.00 BENEATH OUTER CAP: N/A BENEATH INNER CAP: 1.1

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:11 | 0 | 27.83 | 6.07 | 87 | 0.988 | 132 | 2.12 | NA | Tan tint on first pull of water |
| 15:16 | 680 | 27.99 | 6.11 | 66 | 0.981 | 141 | 1.34 | NA | |
| 15:21 | 1360 | 27.73 | 6.11 | 54 | 0.999 | 111 | 1.15 | NA | |
| 15:23 | | | | | | | | 10.24 | |

COMMENTS: ~~soft bottom~~.

SAMPLE COLLECTION TIME: 15:25

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 13.0 |
| Final tubing depth (ft.) BTOC | 13.0 |
| Initial pump speed | 4.07 |
| Time pump speed was initialized | 15:07 |
| Pump speed at flow into cylinder | 4.07 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

Reasonable attempts were made to lower turbidity below 10 NTUs but due to time constraints samples were ~~collected~~ collected

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: cloudy in cylinder, soft bottom when DTB reading taken

some tan bacteria in samples

## ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-29

DATE: 10/1/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear Skies ~82°F Slight breeze

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [ ] 2 [ ] 4 [ ] 6 [X] OTHER (3/4") | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 6.52 FT. | TIME: 12:02 | BTOC WELL SCREEN INTERVAL: 13.55 FT. to 23.55 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.26 FT. | MEASURED TOTAL WELL DEPTH (BTO 23.15 FT. | HEIGHT OF STICK-UP: 3.55 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 1.0 slight turp. odor

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 12:20 | 0 | 29.31 | 4.52 | 130 | 1.56 | 355 | 2.70 | NA | ~1" tan bacteria in 1st pail |
| 12:25 | 1020 | 25.34 | 4.55 | 116 | 1.65 | 151 | 1.11 | NA | water is very cloudy |
| 12:30 | 1960 | 23.87 | 4.61 | 109 | 1.70 | 127 | 0.87 | NA | in cylinder, has a white/gray |
| 12:35 | 2740 | 23.41 | 4.63 | 105 | 1.71 | 153 | 0.78 | NA | tint |
| 12:37 | - | - | - | - | - | - | - | 14.86 | |
| | | | | | | | | | Some small air bubbles coming up |
| | | | | | | | | | |
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COMMENTS:

SAMPLE COLLECTION TIME: 12:39

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 23.0 |
| Initial tubing depth (ft.) BTOC | 19.0 |
| Final tubing depth (ft.) BTOC | 19.0 |
| Initial pump speed | 5.52 |
| Time pump speed was initialized | 12:15 |
| Pump speed at flow into cylinder | 5.52 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

Reasonable attempts were made to lower turbidity below 10 NTUs but due to time constraints, samples were collected

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 12:30 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: guaged at black mark on TOC

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-30

DATE: 10/3/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: partly cloudy ~80°F, no wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.25 FT. to 15.25 FT.

INITIAL WATER LEVEL (BTOC): 5.43 FT. | TIME: 15:32 | BTOC WELL SCREEN INTERVAL: 4.97 FT. to 14.97 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.07 FT. | MEASURED TOTAL WELL DEPTH (BTOC): 15.05 FT. | HEIGHT OF STICK-UP: 0.28 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 2.6 BENEATH INNER CAP: 11.7

slight turpentine odor

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:46 | 0 | 30.01 | 4.62 | 157 | 0.325 | 0.0 | 3.35 | 5.56 | first pull clear |
| 15:52 | 920 | 29.42 | 4.42 | 151 | 0.332 | 0.0 | 1.22 | 5.58 | |
| 15:56 | 1620 | 29.12 | 4.42 | 149 | 0.332 | 3.1 | 0.92 | 5.55 | |
| 16:01 | 2280 | 29.0 | 4.44 | 146 | 0.327 | 6.8 | 0.68 | 5.55 | |

15:52

COMMENTS:

SAMPLE COLLECTION TIME: 16:10

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

TDS & Chloride samples collected

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10.5 |
| Final tubing depth (ft.) BTOC | 10.5 |
| Initial pump speed | 4.50 |
| Time pump speed was initialized | 15:43 |
| Pump speed at flow into cylinder | 4.5 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 15:58 | | | | | | | |
| Cummulative Volume (mL) | 2080 | | | | | | | |

Additional remarks: Water is clear in cylinder

**ENVIRONMENTAL INTERNATIONAL CORPORATION** PAGE 1 OF 1

**WELL PURGING AND SAMPLING DATA LOG**

WELL/SAMPLE NO: MW-32

DATE: 10/2/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: scattered clouds ~5mph wind from North ~76°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT.

INITIAL WATER LEVEL (BTOC): 6.66 FT. | TIME: 17:55 | BTOC WELL SCREEN INTERVAL: 6.08 FT. to 16.08 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.43 FT. | MEASURED TOTAL WELL DEPTH (BTOC): 16.41 FT. | HEIGHT OF STICK-UP: 0.42 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 144

No detected odor

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 18:08 6:08 | 0 | 27.66 | 4.98 | 113 | 1.27 | 22.6 | 4.59 | 6.91 | First pull is clear |
| 18:14 6:14 | 920 | 27.59 | 4.94 | 104 | 1.25 | 14.2 | 1.57 | 7.01 | |
| 18:19 | 1700 | 27.53 | 4.91 | 103 | 1.26 | 11.7 | 1.15 | 7.04 | |
| 18:24 | 2500 | 27.49 | 4.89 | 101 | 1.28 | 7.6 | 0.95 | 7.06 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 18:25

PREPARED BY: Patrick Gingson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

TDS + chloride samples collected

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 12.0 |
| Final tubing depth (ft.) BTOC | 12.0 |
| Initial pump speed | 4.04 |
| Time pump speed was initialized | 18:03 |
| Pump speed at flow into cylinder | 4.04 |
| Started new roll of tubing at | 17:55 |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 18:24 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2080 | | | | | | | |

Additional remarks: Some black bacteria in first water out of hollow, water is clear in cylinder

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-33

DATE: 10/2/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: sunny, not much wind, ~88°F, clear skies

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

INITIAL WATER LEVEL (BTOC): 2.85 FT. | TIME: 11:47 | BTOC WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.42 FT. | MEASURED TOTAL WELL DEPTH (BTOC): 14.35 FT. | HEIGHT OF STICK-UP: 0 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 2.0 | BENEATH INNER CAP: 1.5

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 12:00 | 0 | 26.97 | 5.48 | 79 | 0.511 | 72.1 | 2.18 | 3.07 | first pull is yellowish |
| 12:05 | 800 | 27.47 | 5.41 | 44 | 0.510 | 55.0 | 1.35 | 3.16 | w/ ~½ inch of black bacteria at the front of pull |
| 12:10 | 1600 | 28.06 | 5.41 | 39 | 0.506 | 41.5 | 1.05 | 3.13 | |
| 12:15 | 2300 | 28.33 | 5.41 | 37 | 0.505 | 35.2 | 0.90 | 3.13 | |
| 12:20 | 3100 | 29.28 | 5.42 | 35 | 0.499 | 27.9 | 0.77 | 3.13 | |
| 12:25 | 3800 | 29.61 | 5.42 | 33 | 0.497 | 36.1 | 0.74 | 3.13 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 12:27

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 4.0 |
| Time pump speed was initialized | 11:56 |
| Pump speed at flow into cylinder | 4.0 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 12:13 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

→ depth to bottom

Additional remarks: black/grey slime on tip of probe after initial water level, slippery with gritty feel to it

water is yellowish in cylinder

130 ft²

281 (60)

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-34

DATE: 10/2/2013 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear skies, sunny ~90°F No wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT.

INITIAL WATER LEVEL (BTOC): 3.95 FT. | TIME: 14:20 | BTOC WELL SCREEN INTERVAL: 6.02 FT. to 16.02 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.34 FT. | MEASURED TOTAL WELL DEPTH (BTOC) 16.34 FT. | HEIGHT OF STICK-UP: 0.48 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 4.7

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 14:30 | 0 | 29.25 | 4.53 | 180 | 0.198 | 16.4 | 2.42 | 4.20 | Water is clear in tubing |
| 14:35 | 680 | 27.07 | 4.4 | 196 | 0.207 | 16.1 | 1.78 | 4.40 | some air bubbles coming up |
| 14:40 | 1380 | 27.1 | 4.42 | 203 | 0.205 | 20.4 | 1.52 | 4.1 | |
| 14:45 | 2100 | 27.28 | 4.48 | 207 | 0.204 | 28.6 | 1.45 | 4.1 | |
| 14:50 | 2820 | 27.35 | 4.47 | 214 | 0.208 | 23.5 | 1.29 | 4.1 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 14:50

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11.5 |
| Final tubing depth (ft.) BTOC | 11.5 |
| Initial pump speed | 4.04 |
| Time pump speed was initialized | 14:22 |
| Pump speed at flow into cylinder | 4.04 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 14:45 | | | | | | | |
| Cummulative Volume (mL) | 2100 | | | | | | | |

Additional remarks: Water in cylinder is clear

When deconing the Horiba, there were fine red particles in the bottom of the flow through cell

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# FIFTH SEMIANNUAL PROGRESS REPORT

# ATTACHMENT C

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: LAW-PZ-8R

DATE: 1/19/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Scattered clouds ~ 65°F 0-5 MPH S. Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 1.80 FT. to 11.80 FT.

INITIAL WATER LEVEL (BTOC): 01.59 FT. | TIME: 16:36 | BTOC WELL SCREEN INTERVAL: 1.32 FT. to 11.32 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 11.1 FT. | MEASURED TOTAL WELL DEPTH (BTO FT. | HEIGHT OF STICK-UP: -0.476 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:46 | 0 | 17.5 | 6.86 | -25 | 0.678 | 88 | 4.83 | NA | first pull appears clear in tubing |
| 16:51 | 960 | 917.47 | 6.62 | -36 | 0.756 | 225 | 1.93 | NA | tan tint in cylin |
| 16:56 | 1760 | 17.70 | 6.39 | -44 | 0.811 | 195 | 1.27 | NA | def. very cloudy |
| 17:01 | 2660 | 17.76 | 6.28 | -51 | 0.838 | 667 | 1.13 | NA | |
| 17:06 | 3440 | 17.62 | 6.16 | -54 | 0.874 | 781 | 1.1 | NA | |
| 17:13 ~~17:11~~ | 4500 | 17.57 | 6.11 | -63 | 0.917 | 774 | 1.02 | NA | |
| 17:19 | 5420 | 17.50 | 6.08 | -68 | 0.917 | 682 | 0.96 | NA | |
| 17:24 | 6180 | 17.35 | 6.08 | -70 | 0.929 | 529 | 0.91 | NA | |
| 17:29 | 7900 | 17.34 | 6.04 | -73 | 0.939 | 390 | 0.86 | NA | |
| 17:30 | | | | | | | | 2.85 | ↑ |
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Black ground turpentine odor

COMMENTS: Measure depth to bottom during Jan. 2014 event

SAMPLE COLLECTION TIME: 17:31

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

.045 gal/ft

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 6.5 |
| Final tubing depth (ft.) BTOC | 6.5 |
| Initial pump speed | 4.05 |
| Time pump speed was initialized | 16:42 |
| Pump speed at flow into cylinder | 4.05 |
| Started new roll of tubing at | — |
| Three well volume (mL) | 4863 |

2,000 mL volume poured into bucket:

| Time | 16:57 | 17:10 | 17:24 | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | 6180 | | | | | |

Additional remarks: probe had black bacteria on it after DTW

**ENVIRONMENTAL INTERNATIONAL CORPORATION** PAGE 1 OF 1

**WELL PURGING AND SAMPLING DATA LOG**

WELL/SAMPLE NO: PAN-MW-9

DATE: 1/19/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Partly cloudy ~55°F 0-5 MPH S. Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.36 FT. | TIME: 10:30 | BTOC WELL SCREEN INTERVAL: 6.25 FT. to 16.25 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.78 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.77 FT. | HEIGHT OF STICK-UP: 3.25 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

Background Odor of Turpentine

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:42 | 0 | 14.5 | 5.13 | 68 | 0.765 | 60 | 3.71 | 7.17 | first pull has ~1/2" of |
| 10:47 | 540 | 14.94 | 4.99 | ~~0.786~~ | 0.782 | 35.3 | 2.28 | 7.56 | tan bacteria |
| | | | | | | | | | water is tan tinted in cylinder |
| 10:52 | 1180 | 15.13 | 4.98 | 63 | 0.786 | 26.4 | 1.56 | 7.92 | |
| 10:57 | ~~1710~~ | 15.06 | 4.99 | 60 | 0.786 | 21 | 1.3 | 8.23 | |
| 11:02 | 2300 | 15.11 | 4.98 | 56 | 0.772 | 19.5 | 1.1 | 8.58 | |

66 A.P.V.

COMMENTS:

SAMPLE COLLECTION TIME: 11:04

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | ~~11.5~~ 11.5 |
| Final tubing depth (ft.) BTOC | 11.5 |
| Initial pump speed | 3.50 |
| Time pump speed was initialized | 10:37 |
| Pump speed at flow into cylinder | 3.50 |
| Started new roll of tubing at | ——— |
| Three well volume (mL) | ——— |

2,000 mL volume poured into bucket:

| Time | 11:02 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2300 | | | | | | | |

Additional remarks: When casing was opened there was a strong sulful smell

## ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: PAN-MW-10

DATE: 1/19/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Scattered clouds ~59°F 5-10 MPH S. Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 10.31 FT. | TIME: 1133 | BTOC WELL SCREEN INTERVAL: 6.68 FT. to 16.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.93 FT. | MEASURED TOTAL WELL DEPTH (BTOC) 15.9 FT. | HEIGHT OF STICK-UP: 3.68 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 14:39 | 0 | 19.15 | 6.12 | 60 | 0.463 | 0.0 | 5.12 | 10.37 | ~~fg~~ first pull clear, no bacteria |
| 14:44 | 540 | 19.30 | 6.24 | 44 | 0.479 | 0.0 | 3.97 | 10.39 | |
| 14:49 | 1080 | 19.52 | 6.26 | 44 | 0.479 | 0.0 | 2.88 | 10.4 | |
| 14:54 | 1600 | 19.39 | 6.17 | 43 | 0.480 | 0.0 | 2.29 | 10.41 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 14:56

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 13.0 |
| Final tubing depth (ft.) BTOC | 13.0 |
| Initial pump speed | 3.53 |
| Time pump speed was initialized | 14:34 |
| Pump speed at flow into cylinder | 3.53 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: samples are clear

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-14

DATE: 1/19/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Overcast ~45°F 0-5 MPH S. wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

INITIAL WATER LEVEL (BTOC): 6.72 FT. | TIME: 9:49 | BTOC WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): FT. | MEASURED TOTAL WELL DEPTH (BTOC 49.57 FT. | HEIGHT OF STICK-UP: 0 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

very strong background turpentine odor

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:06 | 0 | 17.7 | 7.36 | 101 | 0.561 | 3.7 | 4.3 | 7.51 | water is very clear |
| 10:11 | 1460 | 19.21 | 7.41 | 39 | 0.562 | 6.9 | 2.82 | 8.25 | |
| 10:16 | 2920 | 19.44 | 7.42 | 9 | 0.561 | 0.5 | 1.74 | 8.67 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 10:19

PREPARED BY: Patrick Cunningham

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 96.5 |
| Initial tubing depth (ft.) BTOC | 44.5 |
| Final tubing depth (ft.) BTOC | 44.5 |
| Initial pump speed | 7.03 |
| Time pump speed was initialized | 10:04 |
| Pump speed at flow into cylinder | 7.03 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 10:17 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-16

DATE: 1/20/2014 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny ~ 55°F 0-3 mph wind SW

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 12.61 FT. | TIME: 1746 | BTOC WELL SCREEN INTERVAL: 8.13 FT. to 18.13 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 13.98 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.02 FT. | HEIGHT OF STICK-UP: 3.18 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND | BENEATH OUTER CAP: ND | BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 18:05 | 0 | 16.83 | 5.85 | 83 | 0.546 | 83.8 | 3.28 | N/A | |
| 18:10 | 180 | 16.46 | 5.85 | 69 | 0.572 | 82.1 | 2.08 | N/A | |
| 18:15 | 360 | 16.25 | 5.83 | 64 | 0.579 | 76.1 | 1.49 | N/A | |
| 18:20 | 740 | 16.07 | 5.82 | 57 | 0.581 | 73.6 | 1.16 | N/A | |
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strong background odor of turpentine

COMMENTS:

SAMPLE COLLECTION TIME: 18:21

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 15 |
| Final tubing depth (ft.) BTOC | 13.5 |
| Initial pump speed | 2.4 |
| Time pump speed was initialized | 17:54 |
| Pump speed at flow into cylinder | 2.4 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: tidal flat is completly dry, first pull is clear, no bacteria

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-17 R

DATE: 1/21/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny 0-3 mph NW wind ~ 55°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.60 FT. to 20.60 FT.

INITIAL WATER LEVEL (BTOC): 10.57 FT. | TIME: 9:21 | BTOC WELL SCREEN INTERVAL: 9.12 FT. to 24.12 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.99 FT. | MEASURED TOTAL WELL DEPTH (BTOC 23.96 FT. | HEIGHT OF STICK-UP: 3.52 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND | BENEATH OUTER CAP: ND | BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:35 | 0 | 16.06 | 6.32 | 62 | 0.283 | 25 | 3.49 | N/A | |
| 9:40 | 600 | 17.43 | 6.22 | 63 | 0.293 | 38.2 | 1.45 | N/A | |
| 9:45 | 1060 | 17.86 | 6.22 | 59 | 0.297 | 41.3 | 1.15 | N/A | |
| 9:50 | 1520 | 18.07 | 6.24 | 54 | 0.297 | 35.3 | 1.02 | N/A | |
| 9:57 | 2020 | 18.23 | 6.26 | 49 | 0.297 | 26.1 | 1.36 | N/A | |
| 10:02 | 2340 | 18.20 | 6.26 | 47 | 0.297 | 25.2 | 1.62 | N/A | |
| | | | | | | | | 16.7 | |

COMMENTS:

SAMPLE COLLECTION TIME: 10:03

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 21 |
| Initial tubing depth (ft.) BTOC | 17 |
| Final tubing depth (ft.) BTOC | 17 |
| Initial pump speed | 3.45 |
| Time pump speed was initialized | 9:28 |
| Pump speed at flow into cylinder | 3.45 |
| Started new roll of tubing at | — |
| Three well volume (mL) | 6263 |

changed to 3.03 pump speed at 9:53 because pump was pulling air

2.54 cm = 1 in

16.387 $cm^3$ = 1 $in^3$

$\pi r^2 = 0.785\ in^2$

Well vol = $0.785\ in^2 (24.12 - 10.57)(12) = 127.64\ in^3$

Well vol (x3) = 16.387 (127.64)

= 6263.1 ml

2,000 mL volume poured into bucket:

| Time | 9:56 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: first pull has a plug of black bacteria, water is tan/grey in cylinder with a large amount of particulate matter.

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: IW-18

DATE: 1/16/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear Skies, Sun going down ~55°F 0-5 MPH S. Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 3.34 FT. | TIME: 16:49 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 19.3 FT. | MEASURED TOTAL WELL DEPTH (BTOC 19.28 FT. | HEIGHT OF STICK-UP: 0.33 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND | BENEATH OUTER CAP: ND | BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:56 | 0 | 16.10 | 5.12 | 28 | 0.844 | 68 | 2.45 | NA | First pull appears clear in tubing, Some black bacteria |
| 18:01 | 300 | 17.22 | 5.02 | 30 | 0.835 | 71.4 | 1.44 | NA | coming up tubing |
| 18:06 | 520 | 17.26 | 5.00 | 31 | 0.851 | 67.0 | 1.15 | NA | |
| 18:11 | 800 | 17.27 | 4.99 | 32 | 0.868 | 47.9 | 1.00 | NA | |
| 18:18 | 1020 | 16.94 | 4.99 | 32 | 0.873 | 42.9 | 0.77 | NA | Water is tan + |
| 18:23 | 1240 | 16.80 | 4.99 | 32 | 0.876 | 46.3 | 0.71 | NA | Cloudy in cylinder |
| 18:24 | | | | | | | | 5.26 | |

COMMENTS:

SAMPLE COLLECTION TIME: 18:25

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 15 |
| Final tubing depth (ft.) BTOC | 15 |
| Initial pump speed | 2103 |
| Time pump speed was initialized | 17:44 |
| Pump speed at flow into cylinder | 2,03 |
| Started new roll of tubing at | ~~—~~ |
| Three well volume (mL) | ~~000~~ 2,15 gals |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: tan bacteria on probe. Air bubbles coming up tubing

Water has sewer odor

no background odors detected

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-18R

DATE: 1/20/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny ~45°F, slight NE wind 0-5 mph

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.57 FT. | TIME: 8:26 | BTOC WELL SCREEN INTERVAL: 6.66 FT. to 16.66 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.61 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.55 FT. | HEIGHT OF STICK-UP: 3.66 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND | BENEATH OUTER CAP: ND | BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 8:40 | ⑤ | 16.02 | 4.88 | 187 | 0.327 | 18.1 | 6.09 | N/A | Light gull is clear, no bacteria |
| 8:45 | 600 | 15.42 | 4.22 | 268 | 0.336 | 16.4 | 4.35 | N/A | clear in cylinder |
| 8:50 | 1280 | 15.60 | 4.19 | 281 | 0.337 | 5.8 | 3.38 | N/A | |
| 8:55 | 1920 | 15.45 | 4.19 | 285 | 0.339 | 4.7 | 2.96 | N/A | |
| | | | | | | | | 7.02 | |
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| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 8:56

PREPARED BY: Will Grait

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 ft |
| Initial tubing depth (ft.) BTOC | 11 ft |
| Final tubing depth (ft.) BTOC | 11 ft |
| Initial pump speed | 4.02 |
| Time pump speed was initialized | 8:36 |
| Pump speed at flow into cylinder | 4.02 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-19

DATE: 1/20/19 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny ~ 58°F, 0-5 mph wind East to west

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.38 FT. to 13.38 FT.

INITIAL WATER LEVEL (BTOC): 7.05 FT. TIME: 9:21 | BTOC WELL SCREEN INTERVAL: 7.58 FT. to 17.58 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 17.97 FT. | MEASURED TOTAL WELL DEPTH (BTOC 17.96 FT. | HEIGHT OF STICK-UP: 4.2 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:38 | 0 | 17.79 | 6.75 | -33 | 1.09 | 126 | 5.34 | NA | first |
| 10:43 | 660 | 18.23 | 6.73 | -28 | 1.11 | 60.2 | 3.63 | N/A | |
| 10:48 | 1320 | 18.33 | 6.64 | -22 | 1.10 | 20.4 | 2.75 | N/A | |
| 10:53 | 2050 | 18.05 | 6.53 | -15 | 1.09 | 4.9 | 3.19 | N/A | |
| | | | | | | | | 7.50 | |

COMMENTS:

SAMPLE COLLECTION TIME: 10:54

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 13.0 |
| Final tubing depth (ft.) BTOC | 13.0 |
| Initial pump speed | 4.13 |
| Time pump speed was initialized | 10:34 |
| Pump speed at flow into cylinder | 4.13 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 10:52 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: first pull is clear, lots of tan bacteria, tan in cylinder

## ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-23

DATE: 1/20/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear Skies very dry ~63°F 0-5 MPH S. Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.15 FT. to 11.15 FT.

INITIAL WATER LEVEL (BTOC): 4.20 FT. | TIME: 15:04 | BTOC WELL SCREEN INTERVAL: 5.90 FT. to 10.90 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 11.72 FT. | MEASURED TOTAL WELL DEPTH (BTOC 11.68 FT. | HEIGHT OF STICK-UP: 0.25 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:20 | 0 | 20.45 | 6.61 | 44 | 0.994 | 7.2 | 4.73 | NA | First pull clear |
| 15:25 | 780 | 19.84 | 6.52 | 36 | 1.05 | 1.1 | 2.27 | NA | water in cylinder has slight |
| 15:30 | 1540 | 19.38 | 6.52 | 35 | 1.09 | 0.0 | 1.78 | NA | tan tint |
| 15:35 | 2300 | 19.01 | 6.66 | 31 | 1.11 | 2.8 | 1.72 | NA | |
| 15:36 | | | | | | | | 5.62 | |

COMMENTS:

SAMPLE COLLECTION TIME: 15:37

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 8.5 |
| Final tubing depth (ft.) BTOC | 8.5 |
| Initial pump speed | 4.02 |
| Time pump speed was initialized | 15:16 |
| Pump speed at flow into cylinder | 4.02 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 15:33 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Samples are clear

## ENVIRONMENTAL INTERNATIONAL CORPORATION

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## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-24 R

DATE: 1/19/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: partly cloudy ~50°F 0-5 MPH SE Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 5.01 FT. | TIME: 11:20 | BTOC WELL SCREEN INTERVAL: 8.68 FT. to 18.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 18.15 FT. | MEASURED TOTAL WELL DEPTH (BTOC 18.4 FT. | HEIGHT OF STICK-UP: 3.73 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 12:23 | 0 | 14.41 | 4.68 | 92 | 0.515 | 110 | 3.77 | NA | water appears clear in tube |
| 12:28 | 580 | 14.55 | 4.68 | 87 | 0.523 | 68.1 | 1.99 | NA | tan bacteria |
| 12:33 | 1160 | 14.79 | 4.68 | 87 | 0.518 | 71.8 | 1.5 | NA | slightly cloudy in cylinder |
| 12:38 | 1760 | 14.87 | 4.71 | 87 | 0.513 | 71.5 | 1.18 | NA | |
| 12:39 | | | | | | | | 8.6 | |

COMMENTS:

SAMPLE COLLECTION TIME: 12:40

PREPARED BY: Patrick Gragson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 14.0 |
| Final tubing depth (ft.) BTOC | 14.8 |
| Initial pump speed | 3.54 |
| Time pump speed was initialized | 12:18 |
| Pump speed at flow into cylinder | 3.54 |
| Started new roll of tubing at | 12:15 |
| Three well volume (mL) | |

some small air bubbles coming up tube

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: briefly stopped pumping at 12:22 due to horiba leaking because of o-ring not seated properly

Samples have tan bacteria in them

## ENVIRONMENTAL INTERNATIONAL CORPORATION

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## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-25

DATE: 1/20/19 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: sunny ~ 53°F, 0-5 mph wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.40 FT. to 16.40 FT.

INITIAL WATER LEVEL (BTOC): 6.42 FT. | TIME: 8:53 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 17.93 FT. | MEASURED TOTAL WELL DEPTH (BTOC 17.91 FT. | HEIGHT OF STICK-UP: 3.27 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND | BENEATH OUTER CAP: ND | BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:28 | 0 | 14.12 | 5.98 | 117 | 0.751 | 107 | 5.07 | N/A | first pull is clear, no odor |
| 9:34 | 800 | 15.77 | 6.09 | 59 | 0.788 | 81.8 | 2.70 | N/A | |
| 9:39 | 1460 | 16.66 | 6.13 | 43 | 0.778 | 45.7 | 2.26 | N/A | |
| 9:44 | 2180 | 17.44 | 6.16 | 25 | 0.776 | 32.6 | 1.60 | N/A | |
| 9:49 | 2860 | 17.65 | 6.17 | 5 | 0.778 | 24.0 | 1.37 | N/A | |
| 9:54 | 3600 | 17.96 | 6.18 | -12 | 0.779 | 17.1 | 1.35 | N/A | |
| 9:59 | 4300 | 18.55 | 6.20 | -24 | 0.777 | 12.7 | 1.32 | N/A | |
| 10:04 | 4980 | 18.44 | 6.18 | -33 | 0.773 | 6.2 | 1.23 | N/A | |
| | | | | | | | | 7.15 | |

COMMENTS:

SAMPLE COLLECTION TIME: 10:05

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 14.0 |
| Final tubing depth (ft.) BTOC | 14.0 |
| Initial pump speed | 4.04 |
| Time pump speed was initialized | 9:24 |
| Pump speed at flow into cylinder | 4.04 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 9:43 | 9:57 | | | | | | |
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks: probe has rust/red bacteria after gauging, water is tan + cloudy in cylinder

## ENVIRONMENTAL INTERNATIONAL CORPORATION

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## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-26R

DATE: 1/20/13 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny ~45°F 0-5 mph Wind SW

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.10 FT. to 15.10 FT.

INITIAL WATER LEVEL (BTOC): 3.11 FT. TIME: 12:36 | BTOC WELL SCREEN INTERVAL: 4.80 FT. to 14.80 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.51 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.51 FT. | HEIGHT OF STICK-UP: 0.3 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 12:45 | 0 | 20.78 | 5.92 | 59 | 0.648 | 19.6 | 4.21 | N/A | |
| 12:50 | 680 | 20.81 | 5.87 | 52 | 0.661 | 13.1 | 2.48 | N/A | |
| 12:55 | 1400 | 20.91 | 5.88 | 43 | 0.653 | 8.0 | 1.77 | N/A | |
| | | | | | | | | 3.85 | |

COMMENTS:

SAMPLE COLLECTION TIME: 12:57

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 10.00 |
| Final tubing depth (ft.) BTOC | 10.0 |
| Initial pump speed | 4.14 |
| Time pump speed was initialized | 12:40 |
| Pump speed at flow into cylinder | 4.14 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: probe is clean, no bubbles

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-27

DATE: 1/20/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny ~60°F 3-7 mph NW wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 7.79 FT. to 17.79 FT.

INITIAL WATER LEVEL (BTOC): 4.77 FT. | TIME: 13:28 | BTOC WELL SCREEN INTERVAL: 7.52 FT. to 17.52 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 13.85 FT. | MEASURED TOTAL WELL DEPTH (BTOC 13.84 FT. | HEIGHT OF STICK-UP: -0.27 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND | BENEATH OUTER CAP: ND | BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:42 | 0 | 21.63 | 6.32 | 21 | 0.853 | 25.0 | 3.66 | N/A | |
| 13:47 | 720 | 21.73 | 6.21 | 19 | 0.884 | 16.6 | 2.64 | N/A | |
| 13:52 | 1080 | 21.88 | 6.26 | 20 | 0.892 | 12.6 | 1.67 | N/A | |
| 13:57 | 1640 | 22.03 | 6.25 | 25 | 0.893 | 4.2 | 1.48 | N/A | |
| | | | | | | | | 8.17 | |

COMMENTS: Measure depth to bottom during Jan. 2014 event

SAMPLE COLLECTION TIME: 13:58

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 13 |
| Final tubing depth (ft.) BTOC | 13 |
| Initial pump speed | 3.51 |
| Time pump speed was initialized | 13:37 |
| Pump speed at flow into cylinder | 3.51 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Large glob of bacteria on first pull, redirected bacteria glop from Horiba to purge water bucket then reconnected line to Horiba for sampling

## ENVIRONMENTAL INTERNATIONAL CORPORATION

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## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-29

DATE: 1/19/17 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Partly Cloudy ~55°F 0-5 MPH S. Wind Clouds are dark

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [ ] 2 [ ] 4 [ ] 6 [X] OTHER (3/4") | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 6.30 FT. | TIME: 10:52 | BTOC WELL SCREEN INTERVAL: 13.55 FT. to 23.55 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.26 FT. | MEASURED TOTAL WELL DEPTH (BTOC 23.15 FT. | HEIGHT OF STICK-UP: 3.55 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

Background odor of turpentine

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 11:24 | 0 | 14.34 | 4.52 | 89 | 1.69 | 28.8 | 4.31 | NA | First pull appears clear in tubing |
| 11:29 | 1180 | 16.23 | 4.70 | 75 | 1.77 | 128 | 1.37 | NA | |
| 11:34 | 2220 | 16.87 | 4.79 | 70 | 1.78 | 141 | 1.09 | NA | water is cloudy in cylinder |
| 11:39 | 3180 | 17.17 | 4.78 | 70 | 1.79 | 91.0 | 0.88 | NA | |
| 11:44 | 4200 | 17.35 | 4.76 | 71 | 1.78 | 84.0 | 0.77 | NA | |
| 11:49 | 5240 | 17.35 | 4.74 | 71 | 1.78 | 50.5 | 0.69 | NA | |
| 11:54 | 6200 | 17.40 | 4.72 | 71 | 1.77 | 39.6 | 0.66 | NA | |
| 11:55 | — | — | — | — | — | — | — | 15.24 | |

COMMENTS:

SAMPLE COLLECTION TIME: 11:56

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 23.0 |
| Initial tubing depth (ft.) BTOC | 19.0 |
| Final tubing depth (ft.) BTOC | 19.0 |
| Initial pump speed | 6.07 |
| Time pump speed was initialized | 11:22 |
| Pump speed at flow into cylinder | 6.07 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 11:33 | 11:43 | 11:53 | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2020 | 4000 | 6000 | | | | | |

Additional remarks: Orange bacteria on probe tip after taking DTW

many small air bubbles coming up tubing

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-30

DATE: 1/19/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Scattered clouds ~60°F 0-5 MPH S. wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.25 FT. to 15.25 FT.

INITIAL WATER LEVEL (BTOC): 5.00 FT. | TIME: 15:40 | BTOC WELL SCREEN INTERVAL: 4.97 FT. to 14.97 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.07 FT. | MEASURED TOTAL WELL DEPTH (BTOC 15.05 FT. | HEIGHT OF STICK-UP: 0.28 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

Turpentine background odor

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:54 | 0 | 19.33 | 4.68 | 81 | 0.310 | 0.0 | 4.14 | 5.05 | first pull clear w/ tan back |
| 15:59 | 1860 | 19.77 | 4.63 | 87 | 0.315 | 0.0 | 2.33 | 5.07 | water in cylinder is clear |
| ~~16:55~~ 16:05 apg | 2000 | 19.84 | 4.62 | 90 | 0.317 | 0.0 | 1.66 | 5.07 | |

COMMENTS:

SAMPLE COLLECTION TIME: 16:06

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 5.04 |
| Time pump speed was initialized | 15:51 |
| Pump speed at flow into cylinder | 5.04 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 15:55 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Samples are very clear

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-31

DATE: 1/20/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: sunny ~65°F 3-7 mph wind West - East

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 10.50 FT. to 20.50 FT.

INITIAL WATER LEVEL (BTOC): 5.2 FT. | TIME: 14:19 | BTOC WELL SCREEN INTERVAL: 10.08 FT. to 20.08 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 20.48 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: 0.42 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND | BENEATH OUTER CAP: ND | BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 14:33 | 0 | 21.60 | 6.60 | 25 | 0.995 | 20.8 | 4.69 | 5.55 | |
| 14:40 | 1220 | 21.40 | 6.63 | 15 | 1.050 | 0.0 | 1.72 | 5.58 | |
| 14:45 | 2000 | 21.26 | 6.63 | 16 | 1.060 | 0.0 | 1.37 | 5.58 | |
| 14:51 | 2960 | 21.20 | 6.62 | 18 | 1.060 | 0.0 | 1.14 | 5.58 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 14:52

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 15 |
| Final tubing depth (ft.) BTOC | 15 |
| Initial pump speed | 4.52 |
| Time pump speed was initialized | 14:29 |
| Pump speed at flow into cylinder | 4.52 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 14:45 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: a large amount of tan bacteria on first pull

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-32

DATE: 1/21/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny ~55°F 0-3 mph very little wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT.

INITIAL WATER LEVEL (BTOC): 6.47 FT. | TIME: 9:45 | BTOC WELL SCREEN INTERVAL: 6.08 FT. to 16.08 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.43 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.41 FT. | HEIGHT OF STICK-UP: 0.42 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:27 | 0 | 18.52 | 4.89 | 133 | 1.170 | 0.0 | 2.850 | 6.63 | |
| 10:32 | 620 | 19.10 | 4.77 | 144 | 1.200 | 0.0 | 1.450 | 6.68 | |
| 10:37 | 1260 | 19.39 | 4.76 | 147 | 1.210 | 0.0 | 0.850 | 6.71 | |
| 10:42 | 1880 | 19.47 | 4.76 | 148 | 1.210 | 0.0 | 0.620 | 6.73 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 10:43

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12 |
| Final tubing depth (ft.) BTOC | 12 |
| Initial pump speed | 4.06 |
| Time pump speed was initialized | 10:22 |
| Pump speed at flow into cylinder | 4.06 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: first pull is clear, no bacteria

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-33

DATE: 1/19/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Scattered clouds ~60°F 5-10 mph S. Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

INITIAL WATER LEVEL (BTOC): 2.72 FT. | TIME: 11:45 | BTOC WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.42 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.35 FT. | HEIGHT OF STICK-UP: 0 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:20 | 0 | 18.27 | 5.54 | 52 | 0.476 | 1.6 | 3.6 | ~~2.72~~ APC | first pull has tan tint |
| 15:25 | 1980 | 18.55 | 5.48 | 48 | 0.490 | 0.0 | 2.33 | 2.78 | water has yellow/tan tint in cylinder otherwise clear |
| 15:30 | 2000 | 18.62 | 5.45 | 43 | 0.494 | 0.0 | 1.35 | 2.82 | |

background turpentine odor

COMMENTS:

SAMPLE COLLECTION TIME: 15:33

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10.5 |
| Final tubing depth (ft.) BTOC | 10.5 |
| Initial pump speed | 5.07 |
| Time pump speed was initialized | 15.17 |
| Pump speed at flow into cylinder | 5.07 |
| Started new roll of tubing at | |
| Three well volume (mL) | ——— |

2,000 mL volume poured into bucket:

| Time | 15:30 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: black bacteria on probe tip after taking DTW Measurement.

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-34

DATE: 1/20/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear skies ~50°F 0 mph wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT.

INITIAL WATER LEVEL (BTOC): 3.4 FT. | TIME: 16:01 | BTOC WELL SCREEN INTERVAL: 6.02 FT. to 16.02 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.34 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.34 FT. | HEIGHT OF STICK-UP: 0.48 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:09 | 0 | 18.97 | 5.04 | 120 | 0.178 | 18.9 | 6.26 | 3.51 | 1/4" red bacteria at front |
| 16:15 | 780 | 19.24 | 4.52 | 160 | 0.183 | 5.2 | 3.02 | 3.51 | of first pull |
| 16:20 | 1480 | 19.33 | 4.48 | 164 | 0.184 | 4.6 | 1.96 | 3.50 | |
| 16:25 | 2100 | 19.32 | 4.48 | 166 | 0.186 | 2.5 | 1.87 | 3.5 | water appears clear in cylinder |
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COMMENTS:

SAMPLE COLLECTION TIME: 16:26

PREPARED BY:

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11.5 |
| Final tubing depth (ft.) BTOC | 11.5 |
| Initial pump speed | 4.01 |
| Time pump speed was initialized | 16:05 |
| Pump speed at flow into cylinder | 4.01 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 16:25 | | | | | | | |
| Cummulative Volume (mL) | 2100 | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-35

DATE: 1/21/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny NW wind 0-5 mph ~55°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.63 FT. to 15.63 FT.

INITIAL WATER LEVEL (BTOC): 5.63 FT. | TIME: 8:41 | BTOC WELL SCREEN INTERVAL: 5.32 FT. to 15.32 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.32 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -0.31 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND | BENEATH OUTER CAP: ND | BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 8:51 | 0 | 17.81 | 6.86 | 163 | 0.671 | 11.5 | 3.49 | 5.64 | |
| 8:57 | 840 | 17.94 | 6.76 | 80 | 0.677 | 1.1 | 1.43 | 5.94 | |
| 9:02 | 1500 | 17.22 | 6.77 | -50 | 0.675 | 0.0 | 1.00 | 5.94 | |
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COMMENTS: Mark N. side TOC during Jan. 2014 event

SAMPLE COLLECTION TIME: 9:03

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 4.0 2 |
| Time pump speed was initialized | 8:47 |
| Pump speed at flow into cylinder | 4.02 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: 1/4" tan bacteria on first pull, clear after bacteria plug

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-36

DATE: 1/21/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny ~60°F 0-5 mph mid NE

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.55 FT. to 15.55 FT.

INITIAL WATER LEVEL (BTOC): 8.53 FT. | TIME: 9:52 | BTOC WELL SCREEN INTERVAL: 5.43 FT. to 15.43 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.425 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -0.125 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND | BENEATH OUTER CAP: ND | BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 11:04 | 0 | 19.81 | 6.49 | 46 | 1.39 | 0.0 | 2.36 | 7.72 | |
| 11:09 | 440 | 20.57 | 6.52 | 18 | 1.41 | 0.0 | 1.26 | 7.77 | |
| 11:14 | 860 | 20.99 | 6.51 | -3 | 1.41 | 0.0 | 0.83 | 7.80 | |
| | | | | | | | | | |
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COMMENTS: Mark N. side of TOC during Jan. 2014 event

SAMPLE COLLECTION TIME: 11:15

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12 |
| Final tubing depth (ft.) BTOC | 12 |
| Initial pump speed | 3.01 |
| Time pump speed was initialized | 10:57 |
| Pump speed at flow into cylinder | 3.01 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: first pull is tan in color, no bacteria, tan in cylinder

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-37

DATE: ~~1/9/14~~ 1/20/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear skies ~60°F 5-10 MPH NE Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.15 FT. to 15.15 FT.

INITIAL WATER LEVEL (BTOC): 4.15 FT. | TIME: 16:14 | BTOC WELL SCREEN INTERVAL: 5.15 FT. to 15.15 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.15 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: 0 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ND BENEATH OUTER CAP: ND BENEATH INNER CAP: ND

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Xenco | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:52 | Ø | 17.75 | 5.39 | 123 | 0.281 | 91 | 6.96 | 4.24 | red bacteria in first pull |
| 16:58 | 1140 | 17.72 | 5.39 | 119 | 0.292 | 47.3 | 4.08 | 4.28 | water is clear in cylinder |
| 17:03 | 2100 | 17.76 | 5.38 | 118 | 0.295 | 27.2 | 3.07 | ~~3.07~~ 4.3 | |
| 17:09 | 3220 | 17.79 | 5.34 | 120 | 0.295 | 41.1 | 1.33 | 4.27 | |
| | | | | | | | | | |
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COMMENTS: Mark N. Side of TOC during Jan. 2014 event

SAMPLE COLLECTION TIME: 17:11

PREPARED BY: Patrick Grayson

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 10.5 |
| Final tubing depth (ft.) BTOC | 10.5 |
| Initial pump speed | 5.02 |
| Time pump speed was initialized | 16:49 |
| Pump speed at flow into cylinder | 5.02 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 17:02 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: gased from black mark on high side of TOC. Red bacteria on probe

few red bacteria in samples

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# FIFTH SEMIANNUAL PROGRESS REPORT

# ATTACHMENT D

# Analytical Report 471644

## for

## Environmental International Corporation

**Project Manager: Alan Sanders**

**VOPAK-Savannah**

**390020**

**10-OCT-13**

Collected By: Client

**6017 Financial Dr., Norcross, GA 30071**
**Ph:(770) 449-8800 Fax:(770) 449-5477**

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-13-15-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories
Florida Testing Services, LLC

10-OCT-13

Project Manager: **Alan Sanders**
**Environmental International Corporation**
161 Kimball Bridge Road, Suite 100
Alpharetta, GA 30009

Reference: XENCO Report No(s): **471644**
**VOPAK-Savannah**
Project Address: GA

**Alan Sanders**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 471644. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 471644 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Eben D. Buchanan, Jr.

**Eben Buchanan**
Project Manager

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***
*Certified and approved by numerous States and Agencies.*
*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America

# Sample Cross Reference 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| LAW-PZ-8R | W | 10-03-13 13:20 | | 471644-001 |
| PAN-MW-9 | W | 10-01-13 11:08 | | 471644-002 |
| PAN-MW-10 | W | 10-02-13 08:47 | | 471644-003 |
| MW-14 | W | 10-02-13 11:11 | | 471644-004 |
| MW-16 | W | 10-03-13 09:56 | | 471644-005 |
| MW-17R | W | 10-02-13 17:20 | | 471644-006 |
| IW-18 | W | 10-03-13 11:36 | | 471644-007 |
| MW-18R | W | 10-01-13 18:28 | | 471644-008 |
| MW-19 | W | 10-03-13 19:05 | | 471644-009 |
| MW-23 | W | 10-01-13 17:00 | | 471644-010 |
| MW-24R | W | 10-02-13 10:07 | | 471644-011 |
| MW-25 | W | 10-03-13 18:25 | | 471644-012 |
| MW-26R | W | 10-03-13 17:34 | | 471644-013 |
| MW-27 | W | 10-01-13 15:25 | | 471644-014 |
| MW-29 | W | 10-01-13 12:39 | | 471644-015 |
| MW-30 | W | 10-03-13 16:10 | | 471644-016 |
| MW-32 | W | 10-02-13 18:25 | | 471644-017 |
| MW-33 | W | 10-02-13 12:27 | | 471644-018 |
| MW-34 | W | 10-02-13 14:50 | | 471644-019 |
| Stilling Well H | W | 10-03-13 08:45 | | 471644-020 |
| Stilling Well L | W | 10-03-13 15:05 | | 471644-021 |
| Trip Blank | W | 10-01-13 00:00 | | 471644-022 |

**Sample receipt non conformances and comments:**

**Sample receipt non conformances and comments per sample:**

None

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **LAW-PZ-8R**
Matrix : Water
% Moisture :
Lab Sample Id :471644-001
Date Collected :10.03.13 13.20
Date Received :10.04.13 17.50

Analytical Method : VOCs by SW-846 8260B
Prep Method: SW5030B
Seq Number 924648
Date Prep: 10.08.13 08.26

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 10000 | ug/L | 10.08.13 18.59 | D | 1000 |
| Benzene | 71-43-2 | 1500 | ug/L | 10.08.13 18.03 | | 10 |
| Chlorobenzene | 108-90-7 | 3700 | ug/L | 10.08.13 18.59 | D | 1000 |
| 2-Butanone (MEK) | 78-93-3 | 120 | ug/L | 10.08.13 18.03 | | 10 |
| 1,2-Dichlorobenzene | 95-50-1 | 320 | ug/L | 10.08.13 18.03 | | 10 |
| 1,3-Dichlorobenzene | 541-73-1 | 140 | ug/L | 10.08.13 18.03 | | 10 |
| 1,4-Dichlorobenzene | 106-46-7 | 1000 | ug/L | 10.08.13 18.03 | | 10 |
| 1,1-Dichloroethene | 75-35-4 | 13 | ug/L | 10.08.13 18.03 | | 10 |
| cis-1,2-Dichloroethene | 156-59-2 | 8500 | ug/L | 10.08.13 18.59 | D | 1000 |
| trans-1,2-Dichloroethene | 156-60-5 | 29 | ug/L | 10.08.13 18.03 | | 10 |
| Ethylbenzene | 100-41-4 | 6800 | ug/L | 10.08.13 18.59 | D | 1000 |
| Isopropylbenzene | 98-82-8 | 78 | ug/L | 10.08.13 18.03 | | 10 |
| Tetrachloroethene | 127-18-4 | 44 | ug/L | 10.08.13 18.03 | | 10 |
| Toluene | 108-88-3 | 510 | ug/L | 10.08.13 18.03 | | 10 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 200 | ug/L | 10.08.13 18.03 | | 10 |
| Trichloroethene | 79-01-6 | 8.5 | ug/L | 10.08.13 18.03 | J | 10 |
| Vinyl chloride | 75-01-4 | 830 | ug/L | 10.08.13 18.03 | | 10 |
| Xylenes, Total | 1330-20-7 | 110000 | ug/L | 10.08.13 18.59 | | 1000 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **PAN-MW-9** Matrix : Water % Moisture :
Lab Sample Id : 471644-002 Date Collected : 10.01.13 11.08
Date Received : 10.04.13 17.50

Analytical Method : Inorganic Anions by SW 9056A Prep Method: SW9056P
Seq Number 924585 Date Prep: 10.08.13 07.00

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | 143 | mg/L | 10.08.13 14.37 | | 1 |

Analytical Method : TDS by SM2540C
Seq Number 924634

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Total dissolved solids | TDS | 557 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method : VOCs by SW-846 8260B Prep Method: SW5030B
Seq Number 924559 Date Prep: 10.07.13 16.29

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 18 | ug/L | 10.07.13 22.16 | | 1 |
| Benzene | 71-43-2 | 1.1 | ug/L | 10.07.13 22.16 | | 1 |
| Carbon disulfide | 75-15-0 | 1.9 | ug/L | 10.07.13 22.16 | | 1 |
| Chlorobenzene | 108-90-7 | 14 | ug/L | 10.07.13 22.16 | | 1 |
| 2-Butanone (MEK) | 78-93-3 | 14 | ug/L | 10.07.13 22.16 | | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | 2.3 | ug/L | 10.07.13 22.16 | | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | 7.4 | ug/L | 10.07.13 22.16 | | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | 14 | ug/L | 10.07.13 22.16 | | 1 |
| 1,1-Dichloroethene | 75-35-4 | 1.4 | ug/L | 10.07.13 22.16 | | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | 2500 | ug/L | 10.08.13 17.03 | D | 50 |
| trans-1,2-Dichloroethene | 156-60-5 | 8.1 | ug/L | 10.07.13 22.16 | | 1 |
| Ethylbenzene | 100-41-4 | 1000 | ug/L | 10.07.13 23.39 | D | 10 |
| Isopropylbenzene | 98-82-8 | 27 | ug/L | 10.07.13 22.16 | | 1 |
| Tetrachloroethene | 127-18-4 | 29 | ug/L | 10.07.13 22.16 | | 1 |
| Toluene | 108-88-3 | 1.5 | ug/L | 10.07.13 22.16 | | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 16 | ug/L | 10.07.13 22.16 | | 1 |
| Trichloroethene | 79-01-6 | 440 | ug/L | 10.07.13 23.39 | D | 10 |
| Vinyl chloride | 75-01-4 | 76 | ug/L | 10.07.13 22.16 | | 1 |
| Xylenes, Total | 1330-20-7 | 2600 | ug/L | 10.07.13 23.39 | | 10 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **PAN-MW-10**
Lab Sample Id : 471644-003

Matrix : Water
Date Collected : 10.02.13 08.47
Date Received : 10.04.13 17.50

% Moisture :

Analytical Method : VOCs by SW-846 8260B
Seq Number 924559

Prep Method: SW5030B
Date Prep: 10.07.13 16.29

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 156-59-2 | 0.76 | ug/L | 10.07.13 20.28 | J | 1 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-14** Matrix : Water % Moisture :
Lab Sample Id : 471644-004 Date Collected : 10.02.13 11.11
Date Received : 10.04.13 17.50

Analytical Method : Inorganic Anions by SW 9056A Prep Method: SW9056P
Seq Number 924585 Date Prep: 10.08.13 07.00

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | 3.98 | mg/L | 10.08.13 14.56 | | 1 |

Analytical Method : TDS by SM2540C
Seq Number 924634

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Total dissolved solids | TDS | 297 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method : VOCs by SW-846 8260B Prep Method: SW5030B
Seq Number 924648 Date Prep: 10.08.13 08.26

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | 3.5 | ug/L | 10.08.13 14.13 | | 1 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-16** Matrix : Water % Moisture :
Lab Sample Id :471644-005 Date Collected :10.03.13 09.56
Date Received :10.04.13 17.50

Analytical Method : Inorganic Anions by SW 9056A Prep Method: SW9056P
Seq Number 924585 Date Prep: 10.08.13 07.00

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | 46.0 | mg/L | 10.08.13 15.15 | | 1 |

Analytical Method : TDS by SM2540C
Seq Number 924634

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Total dissolved solids | TDS | 298 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method : VOCs by SW-846 8260B Prep Method: SW5030B
Seq Number 924559 Date Prep: 10.07.13 16.29

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 9.3 | ug/L | 10.07.13 22.43 | | 1 |
| Benzene | 71-43-2 | 0.83 | ug/L | 10.07.13 22.43 | J | 1 |
| Chlorobenzene | 108-90-7 | 6.9 | ug/L | 10.07.13 22.43 | | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | 1.5 | ug/L | 10.07.13 22.43 | | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | 4.2 | ug/L | 10.07.13 22.43 | | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | 110 | ug/L | 10.07.13 22.43 | | 1 |
| Ethylbenzene | 100-41-4 | 1.2 | ug/L | 10.07.13 22.43 | | 1 |
| Tetrachloroethene | 127-18-4 | 0.58 | ug/L | 10.07.13 22.43 | J | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 5.6 | ug/L | 10.07.13 22.43 | | 1 |
| Trichloroethene | 79-01-6 | 1.1 | ug/L | 10.07.13 22.43 | | 1 |
| Vinyl chloride | 75-01-4 | 86 | ug/L | 10.07.13 22.43 | | 1 |
| Xylenes, Total | 1330-20-7 | 5.6 | ug/L | 10.07.13 22.43 | | 1 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-17R**
Lab Sample Id : 471644-006

Matrix : Water
Date Collected : 10.02.13 17.20
Date Received : 10.04.13 17.50

% Moisture :

Analytical Method : VOCs by SW-846 8260B
Seq Number 924559

Prep Method: SW5030B
Date Prep: 10.07.13 16.29

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Ethylbenzene | 100-41-4 | 0.83 | ug/L | 10.07.13 20.55 | J | 1 |
| Isopropylbenzene | 98-82-8 | 68 | ug/L | 10.07.13 20.55 | | 1 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **IW-18**
Matrix : Water
% Moisture :
Lab Sample Id : 471644-007
Date Collected : 10.03.13 11.36
Date Received : 10.04.13 17.50

Analytical Method : VOCs by SW-846 8260B
Prep Method: SW5030B
Seq Number 924648
Date Prep: 10.08.13 08.26

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 120 | ug/L | 10.08.13 18.32 | | 10 |
| Benzene | 71-43-2 | 26 | ug/L | 10.08.13 18.32 | | 10 |
| Chlorobenzene | 108-90-7 | 180 | ug/L | 10.08.13 18.32 | | 10 |
| 2-Butanone (MEK) | 78-93-3 | 170 | ug/L | 10.08.13 18.32 | | 10 |
| 1,2-Dichlorobenzene | 95-50-1 | 29 | ug/L | 10.08.13 18.32 | | 10 |
| 1,3-Dichlorobenzene | 541-73-1 | 11 | ug/L | 10.08.13 18.32 | | 10 |
| 1,4-Dichlorobenzene | 106-46-7 | 120 | ug/L | 10.08.13 18.32 | | 10 |
| 1,1-Dichloroethene | 75-35-4 | 6.3 | ug/L | 10.08.13 18.32 | J | 10 |
| cis-1,2-Dichloroethene | 156-59-2 | 6400 | ug/L | 10.08.13 19.26 | D | 1000 |
| trans-1,2-Dichloroethene | 156-60-5 | 19 | ug/L | 10.08.13 18.32 | | 10 |
| Ethylbenzene | 100-41-4 | 56 | ug/L | 10.08.13 18.32 | | 10 |
| 2-Hexanone | 591-78-6 | 81 | ug/L | 10.08.13 18.32 | | 10 |
| Tetrachloroethene | 127-18-4 | 29 | ug/L | 10.08.13 18.32 | | 10 |
| Toluene | 108-88-3 | 12 | ug/L | 10.08.13 18.32 | | 10 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 40 | ug/L | 10.08.13 18.32 | | 10 |
| Trichloroethene | 79-01-6 | 26 | ug/L | 10.08.13 18.32 | | 10 |
| Vinyl chloride | 75-01-4 | 670 | ug/L | 10.08.13 18.32 | | 10 |
| Xylenes, Total | 1330-20-7 | 510 | ug/L | 10.08.13 18.32 | | 10 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-18R**
Lab Sample Id : 471644-008

Matrix : Water
Date Collected : 10.01.13 18.28
Date Received : 10.04.13 17.50

% Moisture :

Analytical Method : VOCs by SW-846 8260B
Seq Number 924559

Prep Method: SW5030B
Date Prep: 10.07.13 16.29

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 75-71-8 | 6.2 | ug/L | 10.07.13 21.22 | | 1 |
| 1,1-Dichloroethane | 75-34-3 | 0.53 | ug/L | 10.07.13 21.22 | J | 1 |
| 1,1-Dichloroethene | 75-35-4 | 0.80 | ug/L | 10.07.13 21.22 | J | 1 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-24R** Matrix : Water % Moisture :
Lab Sample Id :471644-011 Date Collected :10.02.13 10.07
Date Received :10.04.13 17.50

Analytical Method : VOCs by SW-846 8260B Prep Method: SW5030B
Seq Number 924648 Date Prep: 10.08.13 08.26

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 6.0 | ug/L | 10.08.13 16.03 | | 1 |
| Chlorobenzene | 108-90-7 | 0.93 | ug/L | 10.08.13 16.03 | J | 1 |
| 2-Butanone (MEK) | 78-93-3 | 28 | ug/L | 10.08.13 16.03 | | 1 |
| 1,1-Dichloroethene | 75-35-4 | 1.0 | ug/L | 10.08.13 16.03 | J | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | 2.3 | ug/L | 10.08.13 16.03 | | 1 |
| Ethylbenzene | 100-41-4 | 0.79 | ug/L | 10.08.13 16.03 | J | 1 |
| Methyl tert-butyl ether | 1634-04-4 | 290 | ug/L | 10.08.13 16.03 | | 1 |
| Tetrachloroethene | 127-18-4 | 3.3 | ug/L | 10.08.13 16.03 | | 1 |
| Toluene | 108-88-3 | 0.41 | ug/L | 10.08.13 16.03 | J | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.63 | ug/L | 10.08.13 16.03 | J | 1 |
| Trichloroethene | 79-01-6 | 2.2 | ug/L | 10.08.13 16.03 | | 1 |
| Vinyl chloride | 75-01-4 | 43 | ug/L | 10.08.13 16.03 | | 1 |
| Xylenes, Total | 1330-20-7 | 6.3 | ug/L | 10.08.13 16.03 | | 1 |

Analytical Method : VOCs by SW-846 8260B Prep Method: SW5030B
Seq Number 924648 Date Prep: 10.09.13 07.00

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 156-59-2 | 450 | ug/L | 10.09.13 13.17 | D | 10 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-26R**
Matrix : Water
% Moisture :
Lab Sample Id : 471644-013
Date Collected : 10.03.13 17.34
Date Received : 10.04.13 17.50

Analytical Method : VOCs by SW-846 8260B
Prep Method: SW5030B
Seq Number 924559
Date Prep: 10.07.13 16.29

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 33 | ug/L | 10.08.13 01.09 | | 10 |
| Chlorobenzene | 108-90-7 | 140 | ug/L | 10.08.13 01.09 | | 10 |
| 1,4-Dichlorobenzene | 106-46-7 | 19 | ug/L | 10.08.13 01.09 | | 10 |
| cis-1,2-Dichloroethene | 156-59-2 | 150 | ug/L | 10.08.13 01.09 | | 10 |
| Ethylbenzene | 100-41-4 | 160 | ug/L | 10.08.13 01.09 | | 10 |
| Toluene | 108-88-3 | 10 | ug/L | 10.08.13 01.09 | J | 10 |
| Vinyl chloride | 75-01-4 | 53 | ug/L | 10.08.13 01.09 | | 10 |
| Xylenes, Total | 1330-20-7 | 2300 | ug/L | 10.08.13 01.09 | | 10 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-27**
Matrix : Water
% Moisture :
Lab Sample Id : 471644-014
Date Collected : 10.01.13 15.25
Date Received : 10.04.13 17.50

Analytical Method : VOCs by SW-846 8260B
Prep Method: SW5030B
Seq Number 924648
Date Prep: 10.08.13 08.26

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Chlorobenzene | 108-90-7 | 1.0 | ug/L | 10.08.13 15.36 | J | 1 |
| Vinyl chloride | 75-01-4 | 2.9 | ug/L | 10.08.13 15.36 | | 1 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-29**
Lab Sample Id :471644-015

Matrix : Water
Date Collected :10.01.13 12.39
Date Received :10.04.13 17.50

% Moisture :

Analytical Method : VOCs by SW-846 8260B
Seq Number 924559

Prep Method: SW5030B
Date Prep: 10.07.13 16.29

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 560 | ug/L | 10.08.13 01.39 | | 10 |
| Benzene | 71-43-2 | 20 | ug/L | 10.08.13 01.39 | | 10 |
| Chlorobenzene | 108-90-7 | 200 | ug/L | 10.08.13 01.39 | | 10 |
| 2-Butanone (MEK) | 78-93-3 | 140 | ug/L | 10.08.13 01.39 | | 10 |
| Chloroform | 67-66-3 | 20 | ug/L | 10.08.13 01.39 | | 10 |
| 1,2-Dichlorobenzene | 95-50-1 | 44 | ug/L | 10.08.13 01.39 | | 10 |
| 1,3-Dichlorobenzene | 541-73-1 | 90 | ug/L | 10.08.13 01.39 | | 10 |
| 1,4-Dichlorobenzene | 106-46-7 | 290 | ug/L | 10.08.13 01.39 | | 10 |
| 1,1-Dichloroethene | 75-35-4 | 12 | ug/L | 10.08.13 01.39 | | 10 |
| cis-1,2-Dichloroethene | 156-59-2 | 6100 | ug/L | 10.08.13 03.09 | D | 100 |
| trans-1,2-Dichloroethene | 156-60-5 | 13 | ug/L | 10.08.13 01.39 | | 10 |
| Ethylbenzene | 100-41-4 | 1200 | ug/L | 10.08.13 01.39 | | 10 |
| Isopropylbenzene | 98-82-8 | 20 | ug/L | 10.08.13 01.39 | | 10 |
| Methylene chloride | 75-09-2 | 11 | ug/L | 10.08.13 01.39 | | 10 |
| Tetrachloroethene | 127-18-4 | 140 | ug/L | 10.08.13 01.39 | | 10 |
| Toluene | 108-88-3 | 10 | ug/L | 10.08.13 01.39 | J | 10 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 310 | ug/L | 10.08.13 01.39 | | 10 |
| Trichloroethene | 79-01-6 | 66 | ug/L | 10.08.13 01.39 | | 10 |
| Vinyl chloride | 75-01-4 | 760 | ug/L | 10.08.13 01.39 | | 10 |
| Xylenes, Total | 1330-20-7 | 2500 | ug/L | 10.08.13 01.39 | | 10 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-30** Matrix : Water % Moisture :
Lab Sample Id : 471644-016 Date Collected : 10.03.13 16.10
Date Received : 10.04.13 17.50

Analytical Method : Inorganic Anions by SW 9056A Prep Method: SW9056P
Seq Number 924585 Date Prep: 10.08.13 07.00

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | 45.1 | mg/L | 10.08.13 15.33 | | 1 |

Analytical Method : TDS by SM2540C
Seq Number 924634

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Total dissolved solids | TDS | 268 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method : VOCs by SW-846 8260B Prep Method: SW5030B
Seq Number 924648 Date Prep: 10.08.13 08.26

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Chlorobenzene | 108-90-7 | 2.0 | ug/L | 10.08.13 15.07 | | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | 6.2 | ug/L | 10.08.13 15.07 | | 1 |
| Vinyl chloride | 75-01-4 | 2.5 | ug/L | 10.08.13 15.07 | | 1 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-32** Matrix : Water % Moisture :
Lab Sample Id :471644-017 Date Collected :10.02.13 18.25
Date Received :10.04.13 17.50

Analytical Method : Inorganic Anions by SW 9056A Prep Method: SW9056P
Seq Number 924585 Date Prep: 10.08.13 07.00

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | 264 | mg/L | 10.08.13 15.52 | | 1 |

Analytical Method : TDS by SM2540C
Seq Number 924634

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Total dissolved solids | TDS | 882 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method : VOCs by SW-846 8260B Prep Method: SW5030B
Seq Number 924559 Date Prep: 10.07.13 16.29

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Chlorobenzene | 108-90-7 | 48 | ug/L | 10.08.13 02.09 | | 10 |
| 1,2-Dichlorobenzene | 95-50-1 | 8.4 | ug/L | 10.08.13 02.09 | J | 10 |
| 1,3-Dichlorobenzene | 541-73-1 | 41 | ug/L | 10.08.13 02.09 | | 10 |
| 1,4-Dichlorobenzene | 106-46-7 | 72 | ug/L | 10.08.13 02.09 | | 10 |
| cis-1,2-Dichloroethene | 156-59-2 | 1600 | ug/L | 10.08.13 02.09 | | 10 |
| trans-1,2-Dichloroethene | 156-60-5 | 6.6 | ug/L | 10.08.13 02.09 | J | 10 |
| Ethylbenzene | 100-41-4 | 160 | ug/L | 10.08.13 02.09 | | 10 |
| Tetrachloroethene | 127-18-4 | 6200 | ug/L | 10.08.13 03.39 | D | 100 |
| Toluene | 108-88-3 | 7.2 | ug/L | 10.08.13 02.09 | J | 10 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 300 | ug/L | 10.08.13 02.09 | | 10 |
| Trichloroethene | 79-01-6 | 1300 | ug/L | 10.08.13 02.09 | | 10 |
| Vinyl chloride | 75-01-4 | 220 | ug/L | 10.08.13 02.09 | | 10 |
| Xylenes, Total | 1330-20-7 | 110 | ug/L | 10.08.13 02.09 | | 10 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-33**
Lab Sample Id :471644-018

Matrix : Water
Date Collected :10.02.13 12.27
Date Received :10.04.13 17.50

% Moisture :

Analytical Method : VOCs by SW-846 8260B
Seq Number 924559

Prep Method: SW5030B
Date Prep: 10.07.13 16.29

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 10 | ug/L | 10.07.13 23.10 | | 1 |
| Benzene | 71-43-2 | 1.8 | ug/L | 10.07.13 23.10 | | 1 |
| Chlorobenzene | 108-90-7 | 88 | ug/L | 10.07.13 23.10 | | 1 |
| Chloroform | 67-66-3 | 0.58 | ug/L | 10.07.13 23.10 | J | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | 27 | ug/L | 10.07.13 23.10 | | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | 160 | ug/L | 10.07.13 23.10 | | 1 |
| 1,1-Dichloroethene | 75-35-4 | 2.0 | ug/L | 10.07.13 23.10 | | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | 800 | ug/L | 10.08.13 00.39 | D | 10 |
| trans-1,2-Dichloroethene | 156-60-5 | 6.2 | ug/L | 10.07.13 23.10 | | 1 |
| Ethylbenzene | 100-41-4 | 9.0 | ug/L | 10.07.13 23.10 | | 1 |
| Tetrachloroethene | 127-18-4 | 1.2 | ug/L | 10.07.13 23.10 | | 1 |
| Toluene | 108-88-3 | 2.0 | ug/L | 10.07.13 23.10 | | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 36 | ug/L | 10.07.13 23.10 | | 1 |
| Trichloroethene | 79-01-6 | 4.8 | ug/L | 10.07.13 23.10 | | 1 |
| Vinyl chloride | 75-01-4 | 480 | ug/L | 10.08.13 00.39 | D | 10 |
| Xylenes, Total | 1330-20-7 | 26 | ug/L | 10.07.13 23.10 | | 1 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **MW-34**
Matrix : Water
% Moisture :
Lab Sample Id : 471644-019
Date Collected : 10.02.13 14.50
Date Received : 10.04.13 17.50

Analytical Method : VOCs by SW-846 8260B
Prep Method: SW5030B
Seq Number 924648
Date Prep: 10.08.13 08.26

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 9.0 | ug/L | 10.08.13 14.40 | | 1 |
| Benzene | 71-43-2 | 1.3 | ug/L | 10.08.13 14.40 | | 1 |
| Chlorobenzene | 108-90-7 | 6.5 | ug/L | 10.08.13 14.40 | | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | 1.9 | ug/L | 10.08.13 14.40 | | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | 1.9 | ug/L | 10.08.13 14.40 | | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | 36 | ug/L | 10.08.13 14.40 | | 1 |
| Methylcyclohexane | 108-87-2 | 4.1 | ug/L | 10.08.13 14.40 | | 1 |
| Tetrachloroethene | 127-18-4 | 6.1 | ug/L | 10.08.13 14.40 | | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.5 | ug/L | 10.08.13 14.40 | | 1 |
| Trichloroethene | 79-01-6 | 3.1 | ug/L | 10.08.13 14.40 | | 1 |
| Vinyl chloride | 75-01-4 | 9.8 | ug/L | 10.08.13 14.40 | | 1 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **Stilling Well H**
Lab Sample Id : 471644-020

Matrix : Water
Date Collected : 10.03.13 08.45
Date Received : 10.04.13 17.50

% Moisture :

Analytical Method : Inorganic Anions by SW 9056A
Seq Number 924585

Prep Method: SW9056P
Date Prep: 10.08.13 07.00

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | 2140 | mg/L | 10.08.13 16.10 | | 10 |

Analytical Method : TDS by SM2540C
Seq Number 924634

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Total dissolved solids | TDS | 3920 | mg/L | 10.08.13 18.28 | | 1 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **Stilling Well L**
Matrix : Water
% Moisture :
Lab Sample Id : 471644-021
Date Collected : 10.03.13 15.05
Date Received : 10.04.13 17.50

Analytical Method : Inorganic Anions by SW 9056A
Prep Method: SW9056P
Seq Number 924585
Date Prep: 10.08.13 07.00

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | 1190 | mg/L | 10.08.13 16.29 | | 10 |

Analytical Method : TDS by SM2540C
Seq Number 924634

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Total dissolved solids | TDS | 2080 | mg/L | 10.08.13 18.28 | | 1 |

# Hits Summary 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id : **Trip Blank**
Lab Sample Id : 471644-022

Matrix : Water
Date Collected : 10.01.13 00.00
Date Received : 10.04.13 17.50

% Moisture :

Analytical Method : VOCs by SW-846 8260B
Seq Number 924559

Prep Method: SW5030B
Date Prep: 10.07.13 16.29

| Parameter | Cas Numbe | Result | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|
| Methylene chloride | 75-09-2 | 2.6 | ug/L | 10.07.13 20.00 | | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **LAW-PZ-8R** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-001 Date Collected: 10.03.13 13.20

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: JOL % Moisture:

Analyst: MLA Date Prep: 10.08.13 08.26

Seq Number: 924648

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Acetone** | 67-64-1 | **10000** | 2000 | 350 | ug/L | 10.08.13 18.59 | D | 1000 |
| **Benzene** | 71-43-2 | **1500** | 10 | 1.6 | ug/L | 10.08.13 18.03 | | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 18.03 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 10.08.13 18.03 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 18.03 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 10.08.13 18.03 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 10.08.13 18.03 | U | 10 |
| **Chlorobenzene** | 108-90-7 | **3700** | 1000 | 150 | ug/L | 10.08.13 18.59 | D | 1000 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 10.08.13 18.03 | U | 10 |
| **2-Butanone (MEK)** | 78-93-3 | **120** | 20 | 2.8 | ug/L | 10.08.13 18.03 | | 10 |
| Chloroform | 67-66-3 | <1.6 | 10 | 1.6 | ug/L | 10.08.13 18.03 | U | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 18.03 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 18.03 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 18.03 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 10.08.13 18.03 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 18.03 | U | 10 |
| **1,2-Dichlorobenzene** | 95-50-1 | **320** | 10 | 1.4 | ug/L | 10.08.13 18.03 | | 10 |
| **1,3-Dichlorobenzene** | 541-73-1 | **140** | 10 | 1.7 | ug/L | 10.08.13 18.03 | | 10 |
| **1,4-Dichlorobenzene** | 106-46-7 | **1000** | 10 | 1.7 | ug/L | 10.08.13 18.03 | | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 10.08.13 18.03 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 18.03 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 18.03 | U | 10 |
| **1,1-Dichloroethene** | 75-35-4 | **13** | 10 | 2.0 | ug/L | 10.08.13 18.03 | | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **8500** | 1000 | 210 | ug/L | 10.08.13 18.59 | D | 1000 |
| **trans-1,2-Dichloroethene** | 156-60-5 | **29** | 10 | 2.1 | ug/L | 10.08.13 18.03 | | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 18.03 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 10.08.13 18.03 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 18.03 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **6800** | 1000 | 190 | ug/L | 10.08.13 18.59 | D | 1000 |
| 2-Hexanone | 591-78-6 | <3.2 | 20 | 3.2 | ug/L | 10.08.13 18.03 | U | 10 |
| **Isopropylbenzene** | 98-82-8 | **78** | 10 | 1.5 | ug/L | 10.08.13 18.03 | | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 10.08.13 18.03 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 18.03 | U | 10 |
| Methylene chloride | 75-09-2 | <4.2 | 10 | 4.2 | ug/L | 10.08.13 18.03 | U | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 10.08.13 18.03 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 10.08.13 18.03 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 18.03 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 18.03 | U | 10 |
| **Tetrachloroethene** | 127-18-4 | **44** | 10 | 1.6 | ug/L | 10.08.13 18.03 | | 10 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **LAW-PZ-8R** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-001 Date Collected: 10.03.13 13.20

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: JOL % Moisture:

Analyst: MLA Date Prep: 10.08.13 08.26

Seq Number: 924648

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **510** | 10 | 1.4 | ug/L | 10.08.13 18.03 | | 10 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **200** | 10 | 1.7 | ug/L | 10.08.13 18.03 | | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 10.08.13 18.03 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 18.03 | U | 10 |
| **Trichloroethene** | 79-01-6 | **8.5** | 10 | 1.9 | ug/L | 10.08.13 18.03 | J | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 10.08.13 18.03 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 18.03 | U | 10 |
| **Vinyl chloride** | 75-01-4 | **830** | 10 | 1.9 | ug/L | 10.08.13 18.03 | | 10 |
| **Xylenes, Total** | 1330-20-7 | **110000** | 1000 | 200 | ug/L | 10.08.13 18.59 | | 1000 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 118 | % | 53-159 | 10.08.13 18.03 | |
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 30-186 | 10.08.13 18.03 | |
| Toluene-D8 | 2037-26-5 | 94 | % | 70-130 | 10.08.13 18.03 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **PAN-MW-9** Matrix: Water Date Received:10.04.13 17.50
Lab Sample Id: 471644-002 Date Collected: 10.01.13 11.08

Analytical Method: TDS by SM2540C
Tech: ANS % Moisture:
Analyst: ANS
Seq Number: 924634 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Total dissolved solids** | TDS | **557** | 5.00 | 5.00 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method: Inorganic Anions by SW 9056A Prep Method: SW9056P
Tech: RKO % Moisture:
Analyst: RKO Date Prep: 10.08.13 07.00
Seq Number: 924585 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **143** | 1.00 | 0.0354 | mg/L | 10.08.13 14.37 | | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **PAN-MW-9**
Lab Sample Id: 471644-002

Matrix: Water
Date Collected: 10.01.13 11.08

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 924559

Prep Method: SW5030B
% Moisture:

Date Prep: 10.07.13 16.29

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Acetone** | 67-64-1 | **18** | 2.0 | 0.35 | ug/L | 10.07.13 22.16 | | 1 |
| **Benzene** | 71-43-2 | **1.1** | 1.0 | 0.16 | ug/L | 10.07.13 22.16 | | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 22.16 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 22.16 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 22.16 | U | 1 |
| **Carbon disulfide** | 75-15-0 | **1.9** | 1.0 | 0.26 | ug/L | 10.07.13 22.16 | | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.07.13 22.16 | U | 1 |
| **Chlorobenzene** | 108-90-7 | **14** | 1.0 | 0.15 | ug/L | 10.07.13 22.16 | | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 22.16 | U | 1 |
| **2-Butanone (MEK)** | 78-93-3 | **14** | 2.0 | 0.28 | ug/L | 10.07.13 22.16 | | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 22.16 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 22.16 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 22.16 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 22.16 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 22.16 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 22.16 | U | 1 |
| **1,2-Dichlorobenzene** | 95-50-1 | **2.3** | 1.0 | 0.14 | ug/L | 10.07.13 22.16 | | 1 |
| **1,3-Dichlorobenzene** | 541-73-1 | **7.4** | 1.0 | 0.17 | ug/L | 10.07.13 22.16 | | 1 |
| **1,4-Dichlorobenzene** | 106-46-7 | **14** | 1.0 | 0.17 | ug/L | 10.07.13 22.16 | | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.07.13 22.16 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 22.16 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 22.16 | U | 1 |
| **1,1-Dichloroethene** | 75-35-4 | **1.4** | 1.0 | 0.20 | ug/L | 10.07.13 22.16 | | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **2500** | 50.0 | 11.0 | ug/L | 10.08.13 17.03 | D | 50 |
| **trans-1,2-Dichloroethene** | 156-60-5 | **8.1** | 1.0 | 0.21 | ug/L | 10.07.13 22.16 | | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 22.16 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.07.13 22.16 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 22.16 | U | 1 |
| **Ethylbenzene** | 100-41-4 | **1000** | 10.0 | 1.90 | ug/L | 10.07.13 23.39 | D | 10 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.07.13 22.16 | U | 1 |
| **Isopropylbenzene** | 98-82-8 | **27** | 1.0 | 0.15 | ug/L | 10.07.13 22.16 | | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 22.16 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 22.16 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.07.13 22.16 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 22.16 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.07.13 22.16 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 22.16 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 22.16 | U | 1 |
| **Tetrachloroethene** | 127-18-4 | **29** | 1.0 | 0.16 | ug/L | 10.07.13 22.16 | | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **PAN-MW-9**
Lab Sample Id: 471644-002

Matrix: Water
Date Collected: 10.01.13 11.08

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 924559

Prep Method: SW5030B
% Moisture:

Date Prep: 10.07.13 16.29

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **1.5** | 1.0 | 0.14 | ug/L | 10.07.13 22.16 | | 1 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **16** | 1.0 | 0.17 | ug/L | 10.07.13 22.16 | | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 22.16 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 22.16 | U | 1 |
| **Trichloroethene** | 79-01-6 | **440** | 10.0 | 1.90 | ug/L | 10.07.13 23.39 | D | 10 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.07.13 22.16 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 22.16 | U | 1 |
| **Vinyl chloride** | 75-01-4 | **76** | 1.0 | 0.19 | ug/L | 10.07.13 22.16 | | 1 |
| **Xylenes, Total** | 1330-20-7 | **2600** | 10 | 2.0 | ug/L | 10.07.13 23.39 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 94 | % | 53-159 | 10.07.13 22.16 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 10.07.13 22.16 | |
| Toluene-D8 | 2037-26-5 | 102 | % | 70-130 | 10.07.13 22.16 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **PAN-MW-10**
Matrix: Water
Date Received:10.04.13 17.50
Lab Sample Id: 471644-003
Date Collected: 10.02.13 08.47

Analytical Method: VOCs by SW-846 8260B
Prep Method: SW5030B
Tech: MWE
% Moisture:
Analyst: MLA
Date Prep: 10.07.13 16.29
Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 10.07.13 20.28 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.28 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.28 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.28 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.28 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 20.28 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.07.13 20.28 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.28 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 20.28 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.07.13 20.28 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.28 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.28 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.28 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.28 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 10.07.13 20.28 | U | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **0.76** | 1.0 | 0.21 | ug/L | 10.07.13 20.28 | J | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.28 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.07.13 20.28 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.28 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 20.28 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.07.13 20.28 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.28 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 20.28 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.28 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.07.13 20.28 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 20.28 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.07.13 20.28 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.28 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.28 | U | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **PAN-MW-10**
Matrix: Water
Date Received:10.04.13 17.50
Lab Sample Id: 471644-003
Date Collected: 10.02.13 08.47

Analytical Method: VOCs by SW-846 8260B
Prep Method: SW5030B
Tech: MWE
% Moisture:
Analyst: MLA
Date Prep: 10.07.13 16.29
Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.28 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 20.28 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.07.13 20.28 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.28 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 20.28 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 10.07.13 20.28 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 120 | % | 53-159 | 10.07.13 20.28 | |
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 30-186 | 10.07.13 20.28 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 10.07.13 20.28 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-14** Matrix: Water Date Received:10.04.13 17.50
Lab Sample Id: 471644-004 Date Collected: 10.02.13 11.11

Analytical Method: TDS by SM2540C
Tech: ANS % Moisture:
Analyst: ANS
Seq Number: 924634 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Total dissolved solids** | TDS | **297** | 5.00 | 5.00 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method: Inorganic Anions by SW 9056A Prep Method: SW9056P
Tech: RKO % Moisture:
Analyst: RKO Date Prep: 10.08.13 07.00
Seq Number: 924585 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **3.98** | 1.00 | 0.0354 | mg/L | 10.08.13 14.56 | | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-14** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-004 Date Collected: 10.02.13 11.11

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: JOL % Moisture:

Analyst: MLA Date Prep: 10.08.13 08.26

Seq Number: 924648

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 10.08.13 14.13 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 14.13 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 14.13 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 14.13 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 14.13 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 14.13 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.08.13 14.13 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 14.13 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 14.13 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.08.13 14.13 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 14.13 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 14.13 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 14.13 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 14.13 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 14.13 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 10.08.13 14.13 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 14.13 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.08.13 14.13 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 14.13 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 14.13 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.08.13 14.13 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 14.13 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 14.13 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 14.13 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.08.13 14.13 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 14.13 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.08.13 14.13 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 14.13 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 14.13 | U | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-14**
Lab Sample Id: 471644-004

Matrix: Water
Date Collected: 10.02.13 11.11

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: JOL
Analyst: MLA
Seq Number: 924648

Prep Method: SW5030B
% Moisture:

Date Prep: 10.08.13 08.26

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **3.5** | 1.0 | 0.14 | ug/L | 10.08.13 14.13 | | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 14.13 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 14.13 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.08.13 14.13 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 14.13 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 14.13 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 14.13 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 113 | % | 53-159 | 10.08.13 14.13 | |
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 30-186 | 10.08.13 14.13 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 10.08.13 14.13 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-16** Matrix: Water Date Received:10.04.13 17.50
Lab Sample Id: 471644-005 Date Collected: 10.03.13 09.56

Analytical Method: TDS by SM2540C
Tech: ANS % Moisture:
Analyst: ANS
Seq Number: 924634 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Total dissolved solids** | TDS | **298** | 5.00 | 5.00 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method: Inorganic Anions by SW 9056A Prep Method: SW9056P
Tech: RKO % Moisture:
Analyst: RKO Date Prep: 10.08.13 07.00
Seq Number: 924585 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **46.0** | 1.00 | 0.0354 | mg/L | 10.08.13 15.15 | | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-16** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-005 Date Collected: 10.03.13 09.56

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Acetone** | 67-64-1 | **9.3** | 2.0 | 0.35 | ug/L | 10.07.13 22.43 | | 1 |
| **Benzene** | 71-43-2 | **0.83** | 1.0 | 0.16 | ug/L | 10.07.13 22.43 | J | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 22.43 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 22.43 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 22.43 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 22.43 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.07.13 22.43 | U | 1 |
| **Chlorobenzene** | 108-90-7 | **6.9** | 1.0 | 0.15 | ug/L | 10.07.13 22.43 | | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 22.43 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.07.13 22.43 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 22.43 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 22.43 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 22.43 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 22.43 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 22.43 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 22.43 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 22.43 | U | 1 |
| **1,3-Dichlorobenzene** | 541-73-1 | **1.5** | 1.0 | 0.17 | ug/L | 10.07.13 22.43 | | 1 |
| **1,4-Dichlorobenzene** | 106-46-7 | **4.2** | 1.0 | 0.17 | ug/L | 10.07.13 22.43 | | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.07.13 22.43 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 22.43 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 22.43 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 10.07.13 22.43 | U | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **110** | 1.0 | 0.21 | ug/L | 10.07.13 22.43 | | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.07.13 22.43 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 22.43 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.07.13 22.43 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 22.43 | U | 1 |
| **Ethylbenzene** | 100-41-4 | **1.2** | 1.0 | 0.19 | ug/L | 10.07.13 22.43 | | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.07.13 22.43 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 22.43 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 22.43 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 22.43 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.07.13 22.43 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 22.43 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.07.13 22.43 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 22.43 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 22.43 | U | 1 |
| **Tetrachloroethene** | 127-18-4 | **0.58** | 1.0 | 0.16 | ug/L | 10.07.13 22.43 | J | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-16**
Matrix: Water
Date Received:10.04.13 17.50
Lab Sample Id: 471644-005
Date Collected: 10.03.13 09.56

Analytical Method: VOCs by SW-846 8260B
Prep Method: SW5030B
Tech: MWE
% Moisture:
Analyst: MLA
Date Prep: 10.07.13 16.29
Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 22.43 | U | 1 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **5.6** | 1.0 | 0.17 | ug/L | 10.07.13 22.43 | | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 22.43 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 22.43 | U | 1 |
| **Trichloroethene** | 79-01-6 | **1.1** | 1.0 | 0.19 | ug/L | 10.07.13 22.43 | | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.07.13 22.43 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 22.43 | U | 1 |
| **Vinyl chloride** | 75-01-4 | **86** | 1.0 | 0.19 | ug/L | 10.07.13 22.43 | | 1 |
| **Xylenes, Total** | 1330-20-7 | **5.6** | 1.0 | 0.20 | ug/L | 10.07.13 22.43 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 106 | % | 53-159 | 10.07.13 22.43 | |
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 30-186 | 10.07.13 22.43 | |
| Toluene-D8 | 2037-26-5 | 100 | % | 70-130 | 10.07.13 22.43 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-17R** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-006 Date Collected: 10.02.13 17.20

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 10.07.13 20.55 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.55 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.55 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.55 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.55 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 20.55 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.07.13 20.55 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.55 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 20.55 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.07.13 20.55 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.55 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.55 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.55 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.55 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 10.07.13 20.55 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 10.07.13 20.55 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.55 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.07.13 20.55 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.55 | U | 1 |
| **Ethylbenzene** | 100-41-4 | **0.83** | 1.0 | 0.19 | ug/L | 10.07.13 20.55 | J | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.07.13 20.55 | U | 1 |
| **Isopropylbenzene** | 98-82-8 | **68** | 1.0 | 0.15 | ug/L | 10.07.13 20.55 | | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 20.55 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.55 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.07.13 20.55 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 20.55 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.07.13 20.55 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.55 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.55 | U | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-17R** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-006 Date Collected: 10.02.13 17.20

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.55 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 20.55 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.07.13 20.55 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.55 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 20.55 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 10.07.13 20.55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 118 | % | 53-159 | 10.07.13 20.55 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 10.07.13 20.55 | |
| Toluene-D8 | 2037-26-5 | 84 | % | 70-130 | 10.07.13 20.55 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **IW-18** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-007 Date Collected: 10.03.13 11.36

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: JOL % Moisture:

Analyst: MLA Date Prep: 10.08.13 08.26

Seq Number: 924648

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Acetone** | 67-64-1 | **120** | 20 | 3.5 | ug/L | 10.08.13 18.32 | | 10 |
| **Benzene** | 71-43-2 | **26** | 10 | 1.6 | ug/L | 10.08.13 18.32 | | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 18.32 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 10.08.13 18.32 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 18.32 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 10.08.13 18.32 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 10.08.13 18.32 | U | 10 |
| **Chlorobenzene** | 108-90-7 | **180** | 10 | 1.5 | ug/L | 10.08.13 18.32 | | 10 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 10.08.13 18.32 | U | 10 |
| **2-Butanone (MEK)** | 78-93-3 | **170** | 20 | 2.8 | ug/L | 10.08.13 18.32 | | 10 |
| Chloroform | 67-66-3 | <1.6 | 10 | 1.6 | ug/L | 10.08.13 18.32 | U | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 18.32 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 18.32 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 18.32 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 10.08.13 18.32 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 18.32 | U | 10 |
| **1,2-Dichlorobenzene** | 95-50-1 | **29** | 10 | 1.4 | ug/L | 10.08.13 18.32 | | 10 |
| **1,3-Dichlorobenzene** | 541-73-1 | **11** | 10 | 1.7 | ug/L | 10.08.13 18.32 | | 10 |
| **1,4-Dichlorobenzene** | 106-46-7 | **120** | 10 | 1.7 | ug/L | 10.08.13 18.32 | | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 10.08.13 18.32 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 18.32 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 18.32 | U | 10 |
| **1,1-Dichloroethene** | 75-35-4 | **6.3** | 10 | 2.0 | ug/L | 10.08.13 18.32 | J | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **6400** | 1000 | 210 | ug/L | 10.08.13 19.26 | D | 1000 |
| **trans-1,2-Dichloroethene** | 156-60-5 | **19** | 10 | 2.1 | ug/L | 10.08.13 18.32 | | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 18.32 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 10.08.13 18.32 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 18.32 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **56** | 10 | 1.9 | ug/L | 10.08.13 18.32 | | 10 |
| **2-Hexanone** | 591-78-6 | **81** | 20 | 3.2 | ug/L | 10.08.13 18.32 | | 10 |
| Isopropylbenzene | 98-82-8 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 18.32 | U | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 10.08.13 18.32 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 18.32 | U | 10 |
| Methylene chloride | 75-09-2 | <4.2 | 10 | 4.2 | ug/L | 10.08.13 18.32 | U | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 10.08.13 18.32 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 10.08.13 18.32 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 18.32 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 18.32 | U | 10 |
| **Tetrachloroethene** | 127-18-4 | **29** | 10 | 1.6 | ug/L | 10.08.13 18.32 | | 10 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **IW-18** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-007 Date Collected: 10.03.13 11.36

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: JOL % Moisture:

Analyst: MLA Date Prep: 10.08.13 08.26

Seq Number: 924648

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **12** | 10 | 1.4 | ug/L | 10.08.13 18.32 | | 10 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **40** | 10 | 1.7 | ug/L | 10.08.13 18.32 | | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 10.08.13 18.32 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 18.32 | U | 10 |
| **Trichloroethene** | 79-01-6 | **26** | 10 | 1.9 | ug/L | 10.08.13 18.32 | | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 10.08.13 18.32 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 18.32 | U | 10 |
| **Vinyl chloride** | 75-01-4 | **670** | 10 | 1.9 | ug/L | 10.08.13 18.32 | | 10 |
| **Xylenes, Total** | 1330-20-7 | **510** | 10 | 2.0 | ug/L | 10.08.13 18.32 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 113 | % | 53-159 | 10.08.13 18.32 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 30-186 | 10.08.13 18.32 | |
| Toluene-D8 | 2037-26-5 | 97 | % | 70-130 | 10.08.13 18.32 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-18R** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-008 Date Collected: 10.01.13 18.28

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 10.07.13 21.22 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 21.22 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 21.22 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 21.22 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 21.22 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 21.22 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.07.13 21.22 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 21.22 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 21.22 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.07.13 21.22 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 21.22 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 21.22 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 21.22 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 21.22 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 21.22 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 21.22 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 21.22 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 21.22 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 21.22 | U | 1 |
| **Dichlorodifluoromethane** | 75-71-8 | **6.2** | 1.0 | 0.22 | ug/L | 10.07.13 21.22 | | 1 |
| **1,1-Dichloroethane** | 75-34-3 | **0.53** | 1.0 | 0.11 | ug/L | 10.07.13 21.22 | J | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 21.22 | U | 1 |
| **1,1-Dichloroethene** | 75-35-4 | **0.80** | 1.0 | 0.20 | ug/L | 10.07.13 21.22 | J | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 10.07.13 21.22 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.07.13 21.22 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 21.22 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.07.13 21.22 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 21.22 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 21.22 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.07.13 21.22 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 21.22 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 21.22 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 21.22 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.07.13 21.22 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 21.22 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.07.13 21.22 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 21.22 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 21.22 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 21.22 | U | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-18R** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-008 Date Collected: 10.01.13 18.28

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 21.22 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 21.22 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 21.22 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 21.22 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 21.22 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.07.13 21.22 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 21.22 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 21.22 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 10.07.13 21.22 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 114 | % | 53-159 | 10.07.13 21.22 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 10.07.13 21.22 | |
| Toluene-D8 | 2037-26-5 | 101 | % | 70-130 | 10.07.13 21.22 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-19** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-009 Date Collected: 10.03.13 19.05

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: JOL % Moisture:

Analyst: MLA Date Prep: 10.08.13 08.26

Seq Number: 924648

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 10.08.13 13.46 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 13.46 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 13.46 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 13.46 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 13.46 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 13.46 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.08.13 13.46 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 13.46 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 13.46 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.08.13 13.46 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 13.46 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 13.46 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 13.46 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 13.46 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 13.46 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 10.08.13 13.46 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 13.46 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.08.13 13.46 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 13.46 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 13.46 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.08.13 13.46 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 13.46 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 13.46 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 13.46 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.08.13 13.46 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 13.46 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.08.13 13.46 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 13.46 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 13.46 | U | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-19**
Lab Sample Id: 471644-009

Matrix: Water
Date Collected: 10.03.13 19.05

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: JOL
Analyst: MLA
Seq Number: 924648

Prep Method: SW5030B
% Moisture:

Date Prep: 10.08.13 08.26

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 13.46 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 13.46 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.08.13 13.46 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 13.46 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 13.46 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 13.46 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 110 | % | 53-159 | 10.08.13 13.46 | |
| 4-Bromofluorobenzene | 460-00-4 | 104 | % | 30-186 | 10.08.13 13.46 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 10.08.13 13.46 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-23** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-010 Date Collected: 10.01.13 17.00

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: JOL % Moisture:

Analyst: MLA Date Prep: 10.08.13 08.26

Seq Number: 924648

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 10.08.13 12.25 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 12.25 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 12.25 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 12.25 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 12.25 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 12.25 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.08.13 12.25 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 12.25 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 12.25 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.08.13 12.25 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 12.25 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 12.25 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 12.25 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 12.25 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 12.25 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 10.08.13 12.25 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 12.25 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.08.13 12.25 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 12.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 12.25 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.08.13 12.25 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 12.25 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 12.25 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 12.25 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.08.13 12.25 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 12.25 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.08.13 12.25 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 12.25 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 12.25 | U | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-23**
Matrix: Water
Date Received:10.04.13 17.50
Lab Sample Id: 471644-010
Date Collected: 10.01.13 17.00

Analytical Method: VOCs by SW-846 8260B
Prep Method: SW5030B
Tech: JOL
% Moisture:
Analyst: MLA
Date Prep: 10.08.13 08.26
Seq Number: 924648

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 12.25 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 12.25 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.08.13 12.25 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 12.25 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 12.25 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 12.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 118 | % | 53-159 | 10.08.13 12.25 | |
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 30-186 | 10.08.13 12.25 | |
| Toluene-D8 | 2037-26-5 | 98 | % | 70-130 | 10.08.13 12.25 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-24R** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-011 Date Collected: 10.02.13 10.07

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: JOL % Moisture:

Analyst: MLA Date Prep: 10.08.13 08.26

Seq Number: 924648

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 10.08.13 16.03 | U | 1 |
| **Benzene** | 71-43-2 | **6.0** | 1.0 | 0.16 | ug/L | 10.08.13 16.03 | | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 16.03 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 16.03 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 16.03 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 16.03 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.08.13 16.03 | U | 1 |
| **Chlorobenzene** | 108-90-7 | **0.93** | 1.0 | 0.15 | ug/L | 10.08.13 16.03 | J | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 16.03 | U | 1 |
| **2-Butanone (MEK)** | 78-93-3 | **28** | 2.0 | 0.28 | ug/L | 10.08.13 16.03 | | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 16.03 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 16.03 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 16.03 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 16.03 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 16.03 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 16.03 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 16.03 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 16.03 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 16.03 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.08.13 16.03 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 16.03 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 16.03 | U | 1 |
| **1,1-Dichloroethene** | 75-35-4 | **1.0** | 1.0 | 0.20 | ug/L | 10.08.13 16.03 | J | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **450** | 10.0 | 2.10 | ug/L | 10.09.13 13.17 | D | 10 |
| **trans-1,2-Dichloroethene** | 156-60-5 | **2.3** | 1.0 | 0.21 | ug/L | 10.08.13 16.03 | | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 16.03 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.08.13 16.03 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 16.03 | U | 1 |
| **Ethylbenzene** | 100-41-4 | **0.79** | 1.0 | 0.19 | ug/L | 10.08.13 16.03 | J | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.08.13 16.03 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 16.03 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 16.03 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 16.03 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.08.13 16.03 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 16.03 | U | 1 |
| **Methyl tert-butyl ether** | 1634-04-4 | **290** | 2.0 | 0.18 | ug/L | 10.08.13 16.03 | | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 16.03 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 16.03 | U | 1 |
| **Tetrachloroethene** | 127-18-4 | **3.3** | 1.0 | 0.16 | ug/L | 10.08.13 16.03 | | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-24R**
Lab Sample Id: 471644-011

Matrix: Water
Date Collected: 10.02.13 10.07

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: JOL
Analyst: MLA
Seq Number: 924648

Prep Method: SW5030B
% Moisture:

Date Prep: 10.08.13 08.26

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **0.41** | 1.0 | 0.14 | ug/L | 10.08.13 16.03 | J | 1 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **0.63** | 1.0 | 0.17 | ug/L | 10.08.13 16.03 | J | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 16.03 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 16.03 | U | 1 |
| **Trichloroethene** | 79-01-6 | **2.2** | 1.0 | 0.19 | ug/L | 10.08.13 16.03 | | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.08.13 16.03 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 16.03 | U | 1 |
| **Vinyl chloride** | 75-01-4 | **43** | 1.0 | 0.19 | ug/L | 10.08.13 16.03 | | 1 |
| **Xylenes, Total** | 1330-20-7 | **6.3** | 1.0 | 0.20 | ug/L | 10.08.13 16.03 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 116 | % | 53-159 | 10.08.13 16.03 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 30-186 | 10.08.13 16.03 | |
| Toluene-D8 | 2037-26-5 | 96 | % | 70-130 | 10.08.13 16.03 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-25**
Lab Sample Id: 471644-012

Matrix: Water
Date Collected: 10.03.13 18.25

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 924559

Date Prep: 10.07.13 16.29

Prep Method: SW5030B
% Moisture:

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 10.07.13 21.49 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 21.49 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 21.49 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 21.49 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 21.49 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 21.49 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.07.13 21.49 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 21.49 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 21.49 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.07.13 21.49 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 21.49 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 21.49 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 21.49 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 21.49 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 10.07.13 21.49 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 10.07.13 21.49 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 21.49 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.07.13 21.49 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 21.49 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 21.49 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.07.13 21.49 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 21.49 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 21.49 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 21.49 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.07.13 21.49 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 21.49 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.07.13 21.49 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 21.49 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 21.49 | U | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-25**
Lab Sample Id: 471644-012

Matrix: Water
Date Collected: 10.03.13 18.25

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 924559

Prep Method: SW5030B
% Moisture:

Date Prep: 10.07.13 16.29

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 21.49 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 21.49 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.07.13 21.49 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 21.49 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 21.49 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 10.07.13 21.49 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 114 | % | 53-159 | 10.07.13 21.49 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 30-186 | 10.07.13 21.49 | |
| Toluene-D8 | 2037-26-5 | 101 | % | 70-130 | 10.07.13 21.49 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-26R** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-013 Date Collected: 10.03.13 17.34

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <3.5 | 20 | 3.5 | ug/L | 10.08.13 01.09 | U | 10 |
| **Benzene** | 71-43-2 | **33** | 10 | 1.6 | ug/L | 10.08.13 01.09 | | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 01.09 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 10.08.13 01.09 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 01.09 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 10.08.13 01.09 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 10.08.13 01.09 | U | 10 |
| **Chlorobenzene** | 108-90-7 | **140** | 10 | 1.5 | ug/L | 10.08.13 01.09 | | 10 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 10.08.13 01.09 | U | 10 |
| 2-Butanone (MEK) | 78-93-3 | <2.8 | 20 | 2.8 | ug/L | 10.08.13 01.09 | U | 10 |
| Chloroform | 67-66-3 | <1.6 | 10 | 1.6 | ug/L | 10.08.13 01.09 | U | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 01.09 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 01.09 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,2-Dichlorobenzene | 95-50-1 | <1.4 | 10 | 1.4 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,3-Dichlorobenzene | 541-73-1 | <1.7 | 10 | 1.7 | ug/L | 10.08.13 01.09 | U | 10 |
| **1,4-Dichlorobenzene** | 106-46-7 | **19** | 10 | 1.7 | ug/L | 10.08.13 01.09 | | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,1-Dichloroethene | 75-35-4 | <2.0 | 10 | 2.0 | ug/L | 10.08.13 01.09 | U | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **150** | 10 | 2.1 | ug/L | 10.08.13 01.09 | | 10 |
| trans-1,2-Dichloroethene | 156-60-5 | <2.1 | 10 | 2.1 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 01.09 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 10.08.13 01.09 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 01.09 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **160** | 10 | 1.9 | ug/L | 10.08.13 01.09 | | 10 |
| 2-Hexanone | 591-78-6 | <3.2 | 20 | 3.2 | ug/L | 10.08.13 01.09 | U | 10 |
| Isopropylbenzene | 98-82-8 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 01.09 | U | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 10.08.13 01.09 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 01.09 | U | 10 |
| Methylene chloride | 75-09-2 | <4.2 | 10 | 4.2 | ug/L | 10.08.13 01.09 | U | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 10.08.13 01.09 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 10.08.13 01.09 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 01.09 | U | 10 |
| Tetrachloroethene | 127-18-4 | <1.6 | 10 | 1.6 | ug/L | 10.08.13 01.09 | U | 10 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-26R** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-013 Date Collected: 10.03.13 17.34

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **10** | 10 | 1.4 | ug/L | 10.08.13 01.09 | J | 10 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <1.7 | 10 | 1.7 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 01.09 | U | 10 |
| Trichloroethene | 79-01-6 | <1.9 | 10 | 1.9 | ug/L | 10.08.13 01.09 | U | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 10.08.13 01.09 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 01.09 | U | 10 |
| **Vinyl chloride** | 75-01-4 | **53** | 10 | 1.9 | ug/L | 10.08.13 01.09 | | 10 |
| **Xylenes, Total** | 1330-20-7 | **2300** | 10 | 2.0 | ug/L | 10.08.13 01.09 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 116 | % | 53-159 | 10.08.13 01.09 | |
| 4-Bromofluorobenzene | 460-00-4 | 107 | % | 30-186 | 10.08.13 01.09 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 10.08.13 01.09 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-27**
Lab Sample Id: 471644-014

Matrix: Water
Date Collected: 10.01.13 15.25

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: JOL
Analyst: MLA
Seq Number: 924648

Prep Method: SW5030B
% Moisture:

Date Prep: 10.08.13 08.26

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 10.08.13 15.36 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 15.36 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 15.36 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 15.36 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 15.36 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 15.36 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.08.13 15.36 | U | 1 |
| **Chlorobenzene** | 108-90-7 | **1.0** | 1.0 | 0.15 | ug/L | 10.08.13 15.36 | J | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 15.36 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.08.13 15.36 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 15.36 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 15.36 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 15.36 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 15.36 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 15.36 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 10.08.13 15.36 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 15.36 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.08.13 15.36 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 15.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 15.36 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.08.13 15.36 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 15.36 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 15.36 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 15.36 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.08.13 15.36 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 15.36 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.08.13 15.36 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 15.36 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 15.36 | U | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-27**
Lab Sample Id: 471644-014

Matrix: Water
Date Collected: 10.01.13 15.25

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: JOL
Analyst: MLA
Seq Number: 924648

Prep Method: SW5030B
% Moisture:

Date Prep: 10.08.13 08.26

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 15.36 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 15.36 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.08.13 15.36 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 15.36 | U | 1 |
| **Vinyl chloride** | 75-01-4 | **2.9** | 1.0 | 0.19 | ug/L | 10.08.13 15.36 | | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 15.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 121 | % | 53-159 | 10.08.13 15.36 | |
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 30-186 | 10.08.13 15.36 | |
| Toluene-D8 | 2037-26-5 | 95 | % | 70-130 | 10.08.13 15.36 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-29** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-015 Date Collected: 10.01.13 12.39

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Acetone** | 67-64-1 | **560** | 20 | 3.5 | ug/L | 10.08.13 01.39 | | 10 |
| **Benzene** | 71-43-2 | **20** | 10 | 1.6 | ug/L | 10.08.13 01.39 | | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 01.39 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 10.08.13 01.39 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 01.39 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 10.08.13 01.39 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 10.08.13 01.39 | U | 10 |
| **Chlorobenzene** | 108-90-7 | **200** | 10 | 1.5 | ug/L | 10.08.13 01.39 | | 10 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 10.08.13 01.39 | U | 10 |
| **2-Butanone (MEK)** | 78-93-3 | **140** | 20 | 2.8 | ug/L | 10.08.13 01.39 | | 10 |
| **Chloroform** | 67-66-3 | **20** | 10 | 1.6 | ug/L | 10.08.13 01.39 | | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 01.39 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 01.39 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 01.39 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 10.08.13 01.39 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 01.39 | U | 10 |
| **1,2-Dichlorobenzene** | 95-50-1 | **44** | 10 | 1.4 | ug/L | 10.08.13 01.39 | | 10 |
| **1,3-Dichlorobenzene** | 541-73-1 | **90** | 10 | 1.7 | ug/L | 10.08.13 01.39 | | 10 |
| **1,4-Dichlorobenzene** | 106-46-7 | **290** | 10 | 1.7 | ug/L | 10.08.13 01.39 | | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 10.08.13 01.39 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 01.39 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 01.39 | U | 10 |
| **1,1-Dichloroethene** | 75-35-4 | **12** | 10 | 2.0 | ug/L | 10.08.13 01.39 | | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **6100** | 100 | 21.0 | ug/L | 10.08.13 03.09 | D | 100 |
| **trans-1,2-Dichloroethene** | 156-60-5 | **13** | 10 | 2.1 | ug/L | 10.08.13 01.39 | | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 01.39 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 10.08.13 01.39 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 01.39 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **1200** | 10 | 1.9 | ug/L | 10.08.13 01.39 | | 10 |
| 2-Hexanone | 591-78-6 | <3.2 | 20 | 3.2 | ug/L | 10.08.13 01.39 | U | 10 |
| **Isopropylbenzene** | 98-82-8 | **20** | 10 | 1.5 | ug/L | 10.08.13 01.39 | | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 10.08.13 01.39 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 01.39 | U | 10 |
| **Methylene chloride** | 75-09-2 | **11** | 10 | 4.2 | ug/L | 10.08.13 01.39 | | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 10.08.13 01.39 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 10.08.13 01.39 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 01.39 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 01.39 | U | 10 |
| **Tetrachloroethene** | 127-18-4 | **140** | 10 | 1.6 | ug/L | 10.08.13 01.39 | | 10 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-29** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-015 Date Collected: 10.01.13 12.39

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **10** | 10 | 1.4 | ug/L | 10.08.13 01.39 | J | 10 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **310** | 10 | 1.7 | ug/L | 10.08.13 01.39 | | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 10.08.13 01.39 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 01.39 | U | 10 |
| **Trichloroethene** | 79-01-6 | **66** | 10 | 1.9 | ug/L | 10.08.13 01.39 | | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 10.08.13 01.39 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 01.39 | U | 10 |
| **Vinyl chloride** | 75-01-4 | **760** | 10 | 1.9 | ug/L | 10.08.13 01.39 | | 10 |
| **Xylenes, Total** | 1330-20-7 | **2500** | 10 | 2.0 | ug/L | 10.08.13 01.39 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 113 | % | 53-159 | 10.08.13 01.39 | |
| 4-Bromofluorobenzene | 460-00-4 | 103 | % | 30-186 | 10.08.13 01.39 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 10.08.13 01.39 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-30** Matrix: Water Date Received:10.04.13 17.50
Lab Sample Id: 471644-016 Date Collected: 10.03.13 16.10

Analytical Method: TDS by SM2540C
Tech: ANS % Moisture:
Analyst: ANS
Seq Number: 924634 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Total dissolved solids** | TDS | **268** | 5.00 | 5.00 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method: Inorganic Anions by SW 9056A Prep Method: SW9056P
Tech: RKO % Moisture:
Analyst: RKO Date Prep: 10.08.13 07.00
Seq Number: 924585 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **45.1** | 1.00 | 0.0354 | mg/L | 10.08.13 15.33 | | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-30** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-016 Date Collected: 10.03.13 16.10

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: JOL % Moisture:

Analyst: MLA Date Prep: 10.08.13 08.26

Seq Number: 924648

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 10.08.13 15.07 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 15.07 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 15.07 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 15.07 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 15.07 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 15.07 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.08.13 15.07 | U | 1 |
| **Chlorobenzene** | 108-90-7 | **2.0** | 1.0 | 0.15 | ug/L | 10.08.13 15.07 | | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 15.07 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.08.13 15.07 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 15.07 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 15.07 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 15.07 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 15.07 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 15.07 | U | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **6.2** | 1.0 | 0.21 | ug/L | 10.08.13 15.07 | | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 15.07 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.08.13 15.07 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 15.07 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 15.07 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.08.13 15.07 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 15.07 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 15.07 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 15.07 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.08.13 15.07 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 15.07 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.08.13 15.07 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 15.07 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 15.07 | U | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-30**
Lab Sample Id: 471644-016

Matrix: Water
Date Collected: 10.03.13 16.10

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: JOL
Analyst: MLA
Seq Number: 924648

Prep Method: SW5030B
% Moisture:

Date Prep: 10.08.13 08.26

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 15.07 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 15.07 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.08.13 15.07 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 15.07 | U | 1 |
| **Vinyl chloride** | 75-01-4 | **2.5** | 1.0 | 0.19 | ug/L | 10.08.13 15.07 | | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 15.07 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 118 | % | 53-159 | 10.08.13 15.07 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 30-186 | 10.08.13 15.07 | |
| Toluene-D8 | 2037-26-5 | 98 | % | 70-130 | 10.08.13 15.07 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-32** Matrix: Water Date Received:10.04.13 17.50
Lab Sample Id: 471644-017 Date Collected: 10.02.13 18.25

Analytical Method: TDS by SM2540C
Tech: ANS % Moisture:
Analyst: ANS
Seq Number: 924634 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Total dissolved solids** | TDS | **882** | 5.00 | 5.00 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method: Inorganic Anions by SW 9056A Prep Method: SW9056P
Tech: RKO % Moisture:
Analyst: RKO Date Prep: 10.08.13 07.00
Seq Number: 924585 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **264** | 1.00 | 0.0354 | mg/L | 10.08.13 15.52 | | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-32** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-017 Date Collected: 10.02.13 18.25

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <3.5 | 20 | 3.5 | ug/L | 10.08.13 02.09 | U | 10 |
| Benzene | 71-43-2 | <1.6 | 10 | 1.6 | ug/L | 10.08.13 02.09 | U | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 02.09 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 10.08.13 02.09 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 02.09 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 10.08.13 02.09 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 10.08.13 02.09 | U | 10 |
| **Chlorobenzene** | 108-90-7 | **48** | 10 | 1.5 | ug/L | 10.08.13 02.09 | | 10 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 10.08.13 02.09 | U | 10 |
| 2-Butanone (MEK) | 78-93-3 | <2.8 | 20 | 2.8 | ug/L | 10.08.13 02.09 | U | 10 |
| Chloroform | 67-66-3 | <1.6 | 10 | 1.6 | ug/L | 10.08.13 02.09 | U | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 02.09 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 02.09 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 02.09 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 10.08.13 02.09 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 02.09 | U | 10 |
| **1,2-Dichlorobenzene** | 95-50-1 | **8.4** | 10 | 1.4 | ug/L | 10.08.13 02.09 | J | 10 |
| **1,3-Dichlorobenzene** | 541-73-1 | **41** | 10 | 1.7 | ug/L | 10.08.13 02.09 | | 10 |
| **1,4-Dichlorobenzene** | 106-46-7 | **72** | 10 | 1.7 | ug/L | 10.08.13 02.09 | | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 10.08.13 02.09 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 02.09 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 02.09 | U | 10 |
| 1,1-Dichloroethene | 75-35-4 | <2.0 | 10 | 2.0 | ug/L | 10.08.13 02.09 | U | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **1600** | 10 | 2.1 | ug/L | 10.08.13 02.09 | | 10 |
| **trans-1,2-Dichloroethene** | 156-60-5 | **6.6** | 10 | 2.1 | ug/L | 10.08.13 02.09 | J | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 02.09 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 10.08.13 02.09 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 02.09 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **160** | 10 | 1.9 | ug/L | 10.08.13 02.09 | | 10 |
| 2-Hexanone | 591-78-6 | <3.2 | 20 | 3.2 | ug/L | 10.08.13 02.09 | U | 10 |
| Isopropylbenzene | 98-82-8 | <1.5 | 10 | 1.5 | ug/L | 10.08.13 02.09 | U | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 10.08.13 02.09 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 02.09 | U | 10 |
| Methylene chloride | 75-09-2 | <4.2 | 10 | 4.2 | ug/L | 10.08.13 02.09 | U | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 10.08.13 02.09 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 10.08.13 02.09 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 02.09 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 10.08.13 02.09 | U | 10 |
| **Tetrachloroethene** | 127-18-4 | **6200** | 100 | 16.0 | ug/L | 10.08.13 03.39 | D | 100 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-32**
Lab Sample Id: 471644-017

Matrix: Water
Date Collected: 10.02.13 18.25

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 924559

Prep Method: SW5030B
% Moisture:

Date Prep: 10.07.13 16.29

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **7.2** | 10 | 1.4 | ug/L | 10.08.13 02.09 | J | 10 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **300** | 10 | 1.7 | ug/L | 10.08.13 02.09 | | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 10.08.13 02.09 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 10.08.13 02.09 | U | 10 |
| **Trichloroethene** | 79-01-6 | **1300** | 10 | 1.9 | ug/L | 10.08.13 02.09 | | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 10.08.13 02.09 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 10.08.13 02.09 | U | 10 |
| **Vinyl chloride** | 75-01-4 | **220** | 10 | 1.9 | ug/L | 10.08.13 02.09 | | 10 |
| **Xylenes, Total** | 1330-20-7 | **110** | 10 | 2.0 | ug/L | 10.08.13 02.09 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 97 | % | 53-159 | 10.08.13 02.09 | |
| 4-Bromofluorobenzene | 460-00-4 | 95 | % | 30-186 | 10.08.13 02.09 | |
| Toluene-D8 | 2037-26-5 | 101 | % | 70-130 | 10.08.13 02.09 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-33** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-018 Date Collected: 10.02.13 12.27

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Acetone** | 67-64-1 | **10** | 2.0 | 0.35 | ug/L | 10.07.13 23.10 | | 1 |
| **Benzene** | 71-43-2 | **1.8** | 1.0 | 0.16 | ug/L | 10.07.13 23.10 | | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 23.10 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 23.10 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 23.10 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 23.10 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.07.13 23.10 | U | 1 |
| **Chlorobenzene** | 108-90-7 | **88** | 1.0 | 0.15 | ug/L | 10.07.13 23.10 | | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 23.10 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.07.13 23.10 | U | 1 |
| **Chloroform** | 67-66-3 | **0.58** | 1.0 | 0.16 | ug/L | 10.07.13 23.10 | J | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 23.10 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 23.10 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 23.10 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 23.10 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 23.10 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 23.10 | U | 1 |
| **1,3-Dichlorobenzene** | 541-73-1 | **27** | 1.0 | 0.17 | ug/L | 10.07.13 23.10 | | 1 |
| **1,4-Dichlorobenzene** | 106-46-7 | **160** | 1.0 | 0.17 | ug/L | 10.07.13 23.10 | | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.07.13 23.10 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 23.10 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 23.10 | U | 1 |
| **1,1-Dichloroethene** | 75-35-4 | **2.0** | 1.0 | 0.20 | ug/L | 10.07.13 23.10 | | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **800** | 10.0 | 2.10 | ug/L | 10.08.13 00.39 | D | 10 |
| **trans-1,2-Dichloroethene** | 156-60-5 | **6.2** | 1.0 | 0.21 | ug/L | 10.07.13 23.10 | | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 23.10 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.07.13 23.10 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 23.10 | U | 1 |
| **Ethylbenzene** | 100-41-4 | **9.0** | 1.0 | 0.19 | ug/L | 10.07.13 23.10 | | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.07.13 23.10 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 23.10 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 23.10 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 23.10 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.07.13 23.10 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 23.10 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.07.13 23.10 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 23.10 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 23.10 | U | 1 |
| **Tetrachloroethene** | 127-18-4 | **1.2** | 1.0 | 0.16 | ug/L | 10.07.13 23.10 | | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-33**
Lab Sample Id: 471644-018

Matrix: Water
Date Collected: 10.02.13 12.27

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 924559

Prep Method: SW5030B
% Moisture:

Date Prep: 10.07.13 16.29

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **2.0** | 1.0 | 0.14 | ug/L | 10.07.13 23.10 | | 1 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **36** | 1.0 | 0.17 | ug/L | 10.07.13 23.10 | | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 23.10 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 23.10 | U | 1 |
| **Trichloroethene** | 79-01-6 | **4.8** | 1.0 | 0.19 | ug/L | 10.07.13 23.10 | | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.07.13 23.10 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 23.10 | U | 1 |
| **Vinyl chloride** | 75-01-4 | **480** | 10.0 | 1.90 | ug/L | 10.08.13 00.39 | D | 10 |
| **Xylenes, Total** | 1330-20-7 | **26** | 1.0 | 0.20 | ug/L | 10.07.13 23.10 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 109 | % | 53-159 | 10.07.13 23.10 | |
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 30-186 | 10.07.13 23.10 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 10.07.13 23.10 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-34** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-019 Date Collected: 10.02.13 14.50

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: JOL % Moisture:

Analyst: MLA Date Prep: 10.08.13 08.26

Seq Number: 924648

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Acetone** | 67-64-1 | **9.0** | 2.0 | 0.35 | ug/L | 10.08.13 14.40 | | 1 |
| **Benzene** | 71-43-2 | **1.3** | 1.0 | 0.16 | ug/L | 10.08.13 14.40 | | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 14.40 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.08.13 14.40 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 14.40 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 14.40 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.08.13 14.40 | U | 1 |
| **Chlorobenzene** | 108-90-7 | **6.5** | 1.0 | 0.15 | ug/L | 10.08.13 14.40 | | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.08.13 14.40 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.08.13 14.40 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 14.40 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 14.40 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 14.40 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 14.40 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 14.40 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 14.40 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 14.40 | U | 1 |
| **1,3-Dichlorobenzene** | 541-73-1 | **1.9** | 1.0 | 0.17 | ug/L | 10.08.13 14.40 | | 1 |
| **1,4-Dichlorobenzene** | 106-46-7 | **1.9** | 1.0 | 0.17 | ug/L | 10.08.13 14.40 | | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.08.13 14.40 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 14.40 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 14.40 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 14.40 | U | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **36** | 1.0 | 0.21 | ug/L | 10.08.13 14.40 | | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.08.13 14.40 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 14.40 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.08.13 14.40 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 14.40 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.08.13 14.40 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.08.13 14.40 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.08.13 14.40 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 14.40 | U | 1 |
| **Methylcyclohexane** | 108-87-2 | **4.1** | 1.0 | 0.11 | ug/L | 10.08.13 14.40 | | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 10.08.13 14.40 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.08.13 14.40 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.08.13 14.40 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 14.40 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.08.13 14.40 | U | 1 |
| **Tetrachloroethene** | 127-18-4 | **6.1** | 1.0 | 0.16 | ug/L | 10.08.13 14.40 | | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-34**
Lab Sample Id: 471644-019

Matrix: Water
Date Collected: 10.02.13 14.50

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: JOL
Analyst: MLA
Seq Number: 924648

Prep Method: SW5030B
% Moisture:

Date Prep: 10.08.13 08.26

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 10.08.13 14.40 | U | 1 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **2.5** | 1.0 | 0.17 | ug/L | 10.08.13 14.40 | | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.08.13 14.40 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.08.13 14.40 | U | 1 |
| **Trichloroethene** | 79-01-6 | **3.1** | 1.0 | 0.19 | ug/L | 10.08.13 14.40 | | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.08.13 14.40 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.08.13 14.40 | U | 1 |
| **Vinyl chloride** | 75-01-4 | **9.8** | 1.0 | 0.19 | ug/L | 10.08.13 14.40 | | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 10.08.13 14.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 114 | % | 53-159 | 10.08.13 14.40 | |
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 30-186 | 10.08.13 14.40 | |
| Toluene-D8 | 2037-26-5 | 97 | % | 70-130 | 10.08.13 14.40 | |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **Stilling Well H** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-020 Date Collected: 10.03.13 08.45

Analytical Method: TDS by SM2540C

Tech: ANS % Moisture:

Analyst: ANS

Seq Number: 924634 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Total dissolved solids** | TDS | **3920** | 5.00 | 5.00 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method: Inorganic Anions by SW 9056A Prep Method: SW9056P

Tech: RKO % Moisture:

Analyst: RKO Date Prep: 10.08.13 07.00

Seq Number: 924585 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **2140** | 10.0 | 0.354 | mg/L | 10.08.13 16.10 | | 10 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **Stilling Well L** Matrix: Water Date Received:10.04.13 17.50
Lab Sample Id: 471644-021 Date Collected: 10.03.13 15.05

Analytical Method: TDS by SM2540C
Tech: ANS % Moisture:
Analyst: ANS
Seq Number: 924634 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Total dissolved solids** | TDS | **2080** | 5.00 | 5.00 | mg/L | 10.08.13 18.28 | | 1 |

Analytical Method: Inorganic Anions by SW 9056A Prep Method: SW9056P
Tech: RKO % Moisture:
Analyst: RKO Date Prep: 10.08.13 07.00
Seq Number: 924585 SUB: E871002

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **1190** | 10.0 | 0.354 | mg/L | 10.08.13 16.29 | | 10 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **Trip Blank** Matrix: Water Date Received:10.04.13 17.50

Lab Sample Id: 471644-022 Date Collected: 10.01.13 00.00

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 10.07.13 16.29

Seq Number: 924559

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 10.07.13 20.00 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.00 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.00 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.00 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.00 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 20.00 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 10.07.13 20.00 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.00 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 10.07.13 20.00 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 10.07.13 20.00 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.00 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.00 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.00 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.00 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 10.07.13 20.00 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 10.07.13 20.00 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.00 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 10.07.13 20.00 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 20.00 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 10.07.13 20.00 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 10.07.13 20.00 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 20.00 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.00 | U | 1 |
| **Methylene chloride** | 75-09-2 | **2.6** | 1.0 | 0.42 | ug/L | 10.07.13 20.00 | | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 10.07.13 20.00 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 10.07.13 20.00 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 10.07.13 20.00 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.00 | U | 1 |

# Certificate of Analytical Results 471644

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **Trip Blank**
Lab Sample Id: 471644-022

Matrix: Water
Date Collected: 10.01.13 00.00

Date Received:10.04.13 17.50

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 924559

Prep Method: SW5030B
% Moisture:

Date Prep: 10.07.13 16.29

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 10.07.13 20.00 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 20.00 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 10.07.13 20.00 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 10.07.13 20.00 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 10.07.13 20.00 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 10.07.13 20.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 118 | % | 53-159 | 10.07.13 20.00 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 30-186 | 10.07.13 20.00 | |
| Toluene-D8 | 2037-26-5 | 94 | % | 70-130 | 10.07.13 20.00 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantiation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

**PQL** Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

\+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** TDS by SM2540C
Seq Number: 924634 Matrix: Water
MB Sample Id: 924634-1-BLK LCS Sample Id: 924634-1-BKS LCSD Sample Id: 924634-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total dissolved solids | <5.00 | 1000 | 937 | 94 | 950 | 95 | 80-120 | 1 | 10 | mg/L | 10.08.13 18:28 | |

**Analytical Method:** TDS by SM2540C
Seq Number: 924634 Matrix: Water
Parent Sample Id: 471644-002 MD Sample Id: 471644-002 D

| Parameter | Parent Result | MD Result | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|
| Total dissolved solids | 557 | 561 | 1 | 10 | mg/L | 10.08.13 18:28 | |

**Analytical Method:** TDS by SM2540C
Seq Number: 924634 Matrix: Water
Parent Sample Id: 471653-010 MD Sample Id: 471653-010 D

| Parameter | Parent Result | MD Result | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|
| Total dissolved solids | 3500 | 3340 | 5 | 10 | mg/L | 10.08.13 18:28 | |

**Analytical Method:** Inorganic Anions by SW 9056A Prep Method: E300P
Seq Number: 924585 Matrix: Water Date Prep: 10.08.13
MB Sample Id: 644988-1-BLK LCS Sample Id: 644988-1-BKS

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | Limits | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|
| Chloride | <0.0354 | 100 | 98.3 | 98 | 70-125 | mg/L | 10.08.13 08:25 | |

**Analytical Method:** Inorganic Anions by SW 9056A Prep Method: E300P
Seq Number: 924585 Matrix: Water Date Prep: 10.08.13
Parent Sample Id: 471392-001 MS Sample Id: 471392-001 S MSD Sample Id: 471392-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 937 | 1000 | 1930 | 99 | 2000 | 106 | 70-125 | 4 | 20 | mg/L | 10.08.13 11:31 | |

**Analytical Method:** Inorganic Anions by SW 9056A Prep Method: SW9056P
Seq Number: 924585 Matrix: Water Date Prep: 10.08.13
Parent Sample Id: 471644-021 MS Sample Id: 471644-021 S MSD Sample Id: 471644-021 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 1190 | 1000 | 2220 | 103 | 2230 | 104 | 70-125 | 0 | 20 | mg/L | 10.08.13 16:48 | |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **Inorganic Anions by SW 9056A** Prep Method: E300P

Seq Number: 924585 Matrix: Water Date Prep: 10.08.13

Parent Sample Id: 471621-001 REMS Sample Id: 471621-001 S REMSD Sample Id: 471621-001 SD

| Parameter | Parent Result | Spike Amount | REMS Result | REMS %Rec | REMSD Result | REMSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 52.0 | 10000 | 10100 | 100 | 9820 | 98 | 70-125 | 0 | 20 | mg/L | 10.08.13 09:40 | |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 924559 Matrix: Water Date Prep: 10.07.13
MB Sample Id: 644999-1-BLK LCS Sample Id: 644999-1-BKS LCSD Sample Id: 644999-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <0.35 | 100 | 96 | 96 | 95 | 95 | 40-140 | 1 | 20 | ug/L | 10.07.13 17:16 | |
| Benzene | <0.16 | 50 | 49 | 98 | 49 | 98 | 80-120 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| Bromodichloromethane | <0.25 | 50 | 47 | 94 | 48 | 96 | 75-120 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| Bromoform | <0.17 | 50 | 44 | 88 | 43 | 86 | 70-130 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| Bromomethane | <0.25 | 50 | 46 | 92 | 46 | 92 | 30-145 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| Carbon disulfide | <0.26 | 50 | 47 | 94 | 47 | 94 | 35-160 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| Carbon tetrachloride | <0.33 | 50 | 44 | 88 | 47 | 94 | 65-140 | 7 | 20 | ug/L | 10.07.13 17:16 | |
| Chlorobenzene | <0.15 | 50 | 47 | 94 | 48 | 96 | 80-120 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| Chloroethane | <0.26 | 50 | 51 | 102 | 45 | 90 | 60-135 | 13 | 20 | ug/L | 10.07.13 17:16 | |
| 2-Butanone (MEK) | <0.28 | 100 | 98 | 98 | 95 | 95 | 30-150 | 3 | 20 | ug/L | 10.07.13 17:16 | |
| Chloroform | <0.16 | 50 | 46 | 92 | 46 | 92 | 65-135 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| Chloromethane | <0.25 | 50 | 48 | 96 | 42 | 84 | 40-125 | 13 | 20 | ug/L | 10.07.13 17:16 | |
| Cyclohexane | <0.15 | 50 | 49 | 98 | 48 | 96 | 65-135 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| Dibromochloromethane | <0.15 | 50 | 50 | 100 | 48 | 96 | 60-135 | 4 | 20 | ug/L | 10.07.13 17:16 | |
| 1,2-Dibromo-3-chloropropane (DBCP) | <0.19 | 50 | 42 | 84 | 43 | 86 | 50-130 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| 1,2-Dibromoethane (EDB) | <0.18 | 50 | 48 | 96 | 49 | 98 | 80-120 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| 1,2-Dichlorobenzene | <0.14 | 50 | 51 | 102 | 50 | 100 | 70-120 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| 1,3-Dichlorobenzene | <0.17 | 50 | 50 | 100 | 49 | 98 | 75-125 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| 1,4-Dichlorobenzene | <0.17 | 50 | 49 | 98 | 47 | 94 | 75-125 | 4 | 20 | ug/L | 10.07.13 17:16 | |
| Dichlorodifluoromethane | <0.22 | 50 | 41 | 82 | 43 | 86 | 30-155 | 5 | 20 | ug/L | 10.07.13 17:16 | |
| 1,1-Dichloroethane | <0.11 | 50 | 46 | 92 | 46 | 92 | 70-135 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| 1,2-Dichloroethane | <0.18 | 50 | 45 | 90 | 45 | 90 | 70-130 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| 1,1-Dichloroethene | <0.20 | 50 | 46 | 92 | 44 | 88 | 70-130 | 4 | 20 | ug/L | 10.07.13 17:16 | |
| cis-1,2-Dichloroethene | <0.21 | 50 | 51 | 102 | 48 | 96 | 70-125 | 6 | 20 | ug/L | 10.07.13 17:16 | |
| trans-1,2-Dichloroethene | <0.21 | 50 | 46 | 92 | 45 | 90 | 60-140 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| 1,2-Dichloropropane | <0.15 | 50 | 49 | 98 | 48 | 96 | 75-125 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| cis-1,3-Dichloropropene | <0.10 | 50 | 46 | 92 | 46 | 92 | 70-130 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| trans-1,3-Dichloropropene | <0.11 | 50 | 46 | 92 | 45 | 90 | 55-140 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| Ethylbenzene | <0.19 | 50 | 52 | 104 | 51 | 102 | 75-125 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| 2-Hexanone | <0.32 | 100 | 98 | 98 | 98 | 98 | 55-130 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| Isopropylbenzene | <0.15 | 50 | 47 | 94 | 47 | 94 | 75-125 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| Methyl acetate | <0.26 | 50 | 47 | 94 | 47 | 94 | 65-135 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| Methylcyclohexane | <0.11 | 50 | 48 | 96 | 48 | 96 | 65-135 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| Methylene chloride | <0.42 | 50 | 44 | 88 | 43 | 86 | 55-140 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| 4-Methyl-2-pentanone (MIBK) | <0.26 | 100 | 95 | 95 | 94 | 94 | 60-135 | 1 | 20 | ug/L | 10.07.13 17:16 | |
| Methyl tert-butyl ether | <0.18 | 100 | 93 | 93 | 93 | 93 | 65-125 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| Styrene | <0.18 | 50 | 47 | 94 | 47 | 94 | 65-135 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| 1,1,2,2-Tetrachloroethane | <0.18 | 50 | 49 | 98 | 48 | 96 | 65-130 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| Tetrachloroethene | <0.16 | 50 | 51 | 102 | 49 | 98 | 45-150 | 4 | 20 | ug/L | 10.07.13 17:16 | |
| Toluene | <0.14 | 50 | 50 | 100 | 50 | 100 | 75-120 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| 1,2,4-Trichlorobenzene | <0.17 | 50 | 48 | 96 | 47 | 94 | 65-135 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| 1,1,1-Trichloroethane | <0.16 | 50 | 47 | 94 | 47 | 94 | 65-130 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| 1,1,2-Trichloroethane | <0.25 | 50 | 48 | 96 | 48 | 96 | 75-125 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| Trichloroethene | <0.19 | 50 | 50 | 100 | 49 | 98 | 70-125 | 2 | 20 | ug/L | 10.07.13 17:16 | |
| Trichlorofluoromethane | <0.53 | 50 | 45 | 90 | 43 | 86 | 60-145 | 5 | 20 | ug/L | 10.07.13 17:16 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <0.11 | 50 | 48 | 96 | 48 | 96 | 65-130 | 0 | 20 | ug/L | 10.07.13 17:16 | |
| Vinyl chloride | <0.19 | 50 | 49 | 98 | 49 | 98 | 50-145 | 0 | 20 | ug/L | 10.07.13 17:16 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 114 | | 94 | | 94 | | 53-159 | % | 10.07.13 17:16 |
| 4-Bromofluorobenzene | 100 | | 103 | | 99 | | 30-186 | % | 10.07.13 17:16 |

# QC Summary 471644

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B

Seq Number: 924559 Matrix: Water Date Prep: 10.07.13

MB Sample Id: 644999-1-BLK LCS Sample Id: 644999-1-BKS LCSD Sample Id: 644999-1-BSD

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| Toluene-D8 | 97 | | 101 | | 103 | | 70-130 | % | 10.07.13 17:16 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B

Seq Number: 924648 Matrix: Water Date Prep: 10.08.13

MB Sample Id: 645051-1-BLK LCS Sample Id: 645051-1-BKS LCSD Sample Id: 645051-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <0.35 | 100 | 93 | 93 | 93 | 93 | 40-140 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| Benzene | <0.16 | 50 | 50 | 100 | 49 | 98 | 80-120 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Bromodichloromethane | <0.25 | 50 | 51 | 102 | 51 | 102 | 75-120 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| Bromoform | <0.17 | 50 | 45 | 90 | 46 | 92 | 70-130 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Bromomethane | <0.25 | 50 | 48 | 96 | 50 | 100 | 30-145 | 4 | 20 | ug/L | 10.08.13 09:16 | |
| Carbon disulfide | <0.26 | 50 | 51 | 102 | 51 | 102 | 35-160 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| Carbon tetrachloride | <0.33 | 50 | 51 | 102 | 45 | 90 | 65-140 | 13 | 20 | ug/L | 10.08.13 09:16 | |
| Chlorobenzene | <0.15 | 50 | 50 | 100 | 49 | 98 | 80-120 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Chloroethane | <0.26 | 50 | 55 | 110 | 57 | 114 | 60-135 | 4 | 20 | ug/L | 10.08.13 09:16 | |
| 2-Butanone (MEK) | <0.28 | 100 | 94 | 94 | 94 | 94 | 30-150 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| Chloroform | <0.16 | 50 | 48 | 96 | 47 | 94 | 65-135 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Chloromethane | <0.25 | 50 | 44 | 88 | 45 | 90 | 40-125 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Cyclohexane | <0.15 | 50 | 48 | 96 | 48 | 96 | 65-135 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| Dibromochloromethane | <0.15 | 50 | 54 | 108 | 52 | 104 | 60-135 | 4 | 20 | ug/L | 10.08.13 09:16 | |
| 1,2-Dibromo-3-chloropropane (DBCP) | <0.19 | 50 | 45 | 90 | 43 | 86 | 50-130 | 5 | 20 | ug/L | 10.08.13 09:16 | |
| 1,2-Dibromoethane (EDB) | <0.18 | 50 | 52 | 104 | 50 | 100 | 80-120 | 4 | 20 | ug/L | 10.08.13 09:16 | |
| 1,2-Dichlorobenzene | <0.14 | 50 | 51 | 102 | 52 | 104 | 70-120 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| 1,3-Dichlorobenzene | <0.17 | 50 | 51 | 102 | 51 | 102 | 75-125 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| 1,4-Dichlorobenzene | <0.17 | 50 | 48 | 96 | 49 | 98 | 75-125 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Dichlorodifluoromethane | <0.22 | 50 | 55 | 110 | 53 | 106 | 30-155 | 4 | 20 | ug/L | 10.08.13 09:16 | |
| 1,1-Dichloroethane | <0.11 | 50 | 49 | 98 | 50 | 100 | 70-135 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| 1,2-Dichloroethane | <0.18 | 50 | 49 | 98 | 48 | 96 | 70-130 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| 1,1-Dichloroethene | <0.20 | 50 | 48 | 96 | 49 | 98 | 70-130 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| cis-1,2-Dichloroethene | <0.21 | 50 | 51 | 102 | 51 | 102 | 70-125 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| trans-1,2-Dichloroethene | <0.21 | 50 | 49 | 98 | 49 | 98 | 60-140 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| 1,2-Dichloropropane | <0.15 | 50 | 51 | 102 | 51 | 102 | 75-125 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| cis-1,3-Dichloropropene | <0.10 | 50 | 48 | 96 | 47 | 94 | 70-130 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| trans-1,3-Dichloropropene | <0.11 | 50 | 49 | 98 | 48 | 96 | 55-140 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Ethylbenzene | <0.19 | 50 | 54 | 108 | 53 | 106 | 75-125 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| 2-Hexanone | <0.32 | 100 | 89 | 89 | 90 | 90 | 55-130 | 1 | 20 | ug/L | 10.08.13 09:16 | |
| Isopropylbenzene | <0.15 | 50 | 45 | 90 | 46 | 92 | 75-125 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Methyl acetate | <0.26 | 50 | 50 | 100 | 48 | 96 | 65-135 | 4 | 20 | ug/L | 10.08.13 09:16 | |
| Methylcyclohexane | <0.11 | 50 | 48 | 96 | 48 | 96 | 65-135 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| Methylene chloride | <0.42 | 50 | 47 | 94 | 46 | 92 | 55-140 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| 4-Methyl-2-pentanone (MIBK) | <0.26 | 100 | 95 | 95 | 93 | 93 | 60-135 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Methyl tert-butyl ether | <0.18 | 100 | 110 | 110 | 110 | 110 | 65-125 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| Styrene | <0.18 | 50 | 50 | 100 | 48 | 96 | 65-135 | 4 | 20 | ug/L | 10.08.13 09:16 | |
| 1,1,2,2-Tetrachloroethane | <0.18 | 50 | 49 | 98 | 49 | 98 | 65-130 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| Tetrachloroethene | <0.16 | 50 | 51 | 102 | 50 | 100 | 45-150 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Toluene | <0.14 | 50 | 52 | 104 | 51 | 102 | 75-120 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| 1,2,4-Trichlorobenzene | <0.17 | 50 | 47 | 94 | 47 | 94 | 65-135 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| 1,1,1-Trichloroethane | <0.16 | 50 | 51 | 102 | 51 | 102 | 65-130 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| 1,1,2-Trichloroethane | <0.25 | 50 | 51 | 102 | 50 | 100 | 75-125 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Trichloroethene | <0.19 | 50 | 49 | 98 | 47 | 94 | 70-125 | 4 | 20 | ug/L | 10.08.13 09:16 | |
| Trichlorofluoromethane | <0.53 | 50 | 52 | 104 | 52 | 104 | 60-145 | 0 | 20 | ug/L | 10.08.13 09:16 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <0.11 | 50 | 52 | 104 | 51 | 102 | 65-130 | 2 | 20 | ug/L | 10.08.13 09:16 | |
| Vinyl chloride | <0.19 | 50 | 55 | 110 | 55 | 110 | 50-145 | 0 | 20 | ug/L | 10.08.13 09:16 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 118 | | 100 | | 97 | | 53-159 | % | 10.08.13 09:16 |
| 4-Bromofluorobenzene | 102 | | 98 | | 98 | | 30-186 | % | 10.08.13 09:16 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 924648 Matrix: Water Date Prep: 10.08.13
MB Sample Id: 645051-1-BLK LCS Sample Id: 645051-1-BKS LCSD Sample Id: 645051-1-BSD

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| Toluene-D8 | 98 | | 100 | | 99 | | 70-130 | % | 10.08.13 09:16 |

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 924769 Matrix: Water Date Prep: 10.09.13
MB Sample Id: 645131-1-BLK LCS Sample Id: 645131-1-BKS LCSD Sample Id: 645131-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | <0.21 | 50 | 60 | 120 | 52 | 104 | 70-125 | 14 | 20 | ug/L | 10.09.13 07:51 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 131 | | 93 | | 100 | | 53-159 | % | 10.09.13 07:51 |
| 4-Bromofluorobenzene | 100 | | 95 | | 100 | | 30-186 | % | 10.09.13 07:51 |
| Toluene-D8 | 94 | | 94 | | 96 | | 70-130 | % | 10.09.13 07:51 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 924559 Matrix: Water Date Prep: 10.07.13
Parent Sample Id: 471644-003 MS Sample Id: 471644-003 S MSD Sample Id: 471644-003 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <0.35 | 100 | 94 | 94 | 97 | 97 | 40-140 | 3 | 20 | ug/L | 10.08.13 04:06 | |
| Benzene | <0.16 | 50 | 47 | 94 | 47 | 94 | 77-118 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| Bromodichloromethane | <0.25 | 50 | 49 | 98 | 49 | 98 | 68-125 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| Bromoform | <0.17 | 50 | 45 | 90 | 45 | 90 | 53-112 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| Bromomethane | <0.25 | 50 | 43 | 86 | 44 | 88 | 63-137 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| Carbon disulfide | <0.26 | 50 | 48 | 96 | 48 | 96 | 26-147 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| Carbon tetrachloride | <0.33 | 50 | 45 | 90 | 45 | 90 | 56-138 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| Chlorobenzene | <0.15 | 50 | 47 | 94 | 46 | 92 | 71-114 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| Chloroethane | <0.26 | 50 | 44 | 88 | 50 | 100 | 60-137 | 13 | 20 | ug/L | 10.08.13 04:06 | |
| 2-Butanone (MEK) | <0.28 | 100 | 97 | 97 | 99 | 99 | 50-152 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| Chloroform | <0.16 | 50 | 46 | 92 | 47 | 94 | 65-131 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| Chloromethane | <0.25 | 50 | 37 | 74 | 39 | 78 | 48-151 | 5 | 20 | ug/L | 10.08.13 04:06 | |
| Cyclohexane | <0.15 | 50 | 45 | 90 | 46 | 92 | 61-141 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| Dibromochloromethane | <0.15 | 50 | 52 | 104 | 51 | 102 | 53-125 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| 1,2-Dibromo-3-chloropropane (DBCP) | <0.19 | 50 | 42 | 84 | 42 | 84 | 53-121 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| 1,2-Dibromoethane (EDB) | <0.18 | 50 | 49 | 98 | 49 | 98 | 66-125 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| 1,2-Dichlorobenzene | <0.14 | 50 | 49 | 98 | 48 | 96 | 58-124 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| 1,3-Dichlorobenzene | <0.17 | 50 | 49 | 98 | 48 | 96 | 62-120 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| 1,4-Dichlorobenzene | <0.17 | 50 | 46 | 92 | 45 | 90 | 64-114 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| Dichlorodifluoromethane | <0.22 | 50 | 39 | 78 | 38 | 76 | 38-145 | 3 | 20 | ug/L | 10.08.13 04:06 | |
| 1,1-Dichloroethane | <0.11 | 50 | 48 | 96 | 47 | 94 | 69-132 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| 1,2-Dichloroethane | <0.18 | 50 | 47 | 94 | 47 | 94 | 55-141 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| 1,1-Dichloroethene | <0.20 | 50 | 45 | 90 | 46 | 92 | 62-131 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| cis-1,2-Dichloroethene | 0.76 | 50 | 50 | 98 | 49 | 96 | 22-185 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| trans-1,2-Dichloroethene | <0.21 | 50 | 48 | 96 | 46 | 92 | 65-135 | 4 | 20 | ug/L | 10.08.13 04:06 | |
| 1,2-Dichloropropane | <0.15 | 50 | 49 | 98 | 48 | 96 | 78-121 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| cis-1,3-Dichloropropene | <0.10 | 50 | 42 | 84 | 42 | 84 | 67-113 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| trans-1,3-Dichloropropene | <0.11 | 50 | 43 | 86 | 43 | 86 | 50-125 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| Ethylbenzene | <0.19 | 50 | 51 | 102 | 50 | 100 | 66-127 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| 2-Hexanone | <0.32 | 100 | 89 | 89 | 90 | 90 | 55-136 | 1 | 20 | ug/L | 10.08.13 04:06 | |
| Isopropylbenzene | <0.15 | 50 | 47 | 94 | 45 | 90 | 58-127 | 4 | 20 | ug/L | 10.08.13 04:06 | |
| Methyl acetate | <0.26 | 50 | 43 | 86 | 45 | 90 | 65-135 | 5 | 20 | ug/L | 10.08.13 04:06 | |
| Methylcyclohexane | <0.11 | 50 | 44 | 88 | 44 | 88 | 64-128 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| Methylene chloride | <0.42 | 50 | 48 | 96 | 47 | 94 | 63-150 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| 4-Methyl-2-pentanone (MIBK) | <0.26 | 100 | 92 | 92 | 92 | 92 | 65-132 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| Methyl tert-butyl ether | <0.18 | 100 | 94 | 94 | 96 | 96 | 58-141 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| Styrene | <0.18 | 50 | 47 | 94 | 46 | 92 | 50-133 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| 1,1,2,2-Tetrachloroethane | <0.18 | 50 | 48 | 96 | 48 | 96 | 63-126 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| Tetrachloroethene | <0.16 | 50 | 47 | 94 | 47 | 94 | 52-125 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| Toluene | <0.14 | 50 | 49 | 98 | 48 | 96 | 65-123 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| 1,2,4-Trichlorobenzene | <0.17 | 50 | 43 | 86 | 44 | 88 | 34-131 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| 1,1,1-Trichloroethane | <0.16 | 50 | 48 | 96 | 48 | 96 | 59-138 | 0 | 20 | ug/L | 10.08.13 04:06 | |
| 1,1,2-Trichloroethane | <0.25 | 50 | 48 | 96 | 46 | 92 | 72-115 | 4 | 20 | ug/L | 10.08.13 04:06 | |
| Trichloroethene | <0.19 | 50 | 47 | 94 | 50 | 100 | 65-125 | 6 | 20 | ug/L | 10.08.13 04:06 | |
| Trichlorofluoromethane | <0.53 | 50 | 47 | 94 | 46 | 92 | 51-145 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <0.11 | 50 | 48 | 96 | 49 | 98 | 53-138 | 2 | 20 | ug/L | 10.08.13 04:06 | |
| Vinyl chloride | <0.19 | 50 | 42 | 84 | 43 | 86 | 52-140 | 2 | 20 | ug/L | 10.08.13 04:06 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 101 | | 90 | | 53-159 | % | 10.08.13 04:06 |
| 4-Bromofluorobenzene | 99 | | 101 | | 30-186 | % | 10.08.13 04:06 |

# QC Summary 471644

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B

Seq Number: 924559 Matrix: Water Date Prep: 10.07.13

Parent Sample Id: 471644-003 MS Sample Id: 471644-003 S MSD Sample Id: 471644-003 SD

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| Toluene-D8 | 97 | | 99 | | 70-130 | % | 10.08.13 04:06 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 924648 Matrix: Water Date Prep: 10.08.13
Parent Sample Id: 471569-001 MS Sample Id: 471569-001 S MSD Sample Id: 471569-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <0.35 | 100 | 97 | 97 | 94 | 94 | 40-140 | 3 | 20 | ug/L | 10.08.13 19:53 | |
| Benzene | <0.16 | 50 | 46 | 92 | 46 | 92 | 77-118 | 0 | 20 | ug/L | 10.08.13 19:53 | |
| Bromodichloromethane | <0.25 | 50 | 49 | 98 | 48 | 96 | 68-125 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| Bromoform | <0.17 | 50 | 44 | 88 | 42 | 84 | 53-112 | 5 | 20 | ug/L | 10.08.13 19:53 | |
| Bromomethane | <0.25 | 50 | 54 | 108 | 52 | 104 | 63-137 | 4 | 20 | ug/L | 10.08.13 19:53 | |
| Carbon disulfide | <0.26 | 50 | 51 | 102 | 49 | 98 | 26-147 | 4 | 20 | ug/L | 10.08.13 19:53 | |
| Carbon tetrachloride | <0.33 | 50 | 47 | 94 | 44 | 88 | 56-138 | 7 | 20 | ug/L | 10.08.13 19:53 | |
| Chlorobenzene | <0.15 | 50 | 47 | 94 | 46 | 92 | 71-114 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| Chloroethane | <0.26 | 50 | 58 | 116 | 56 | 112 | 60-137 | 4 | 20 | ug/L | 10.08.13 19:53 | |
| 2-Butanone (MEK) | <0.28 | 100 | 94 | 94 | 93 | 93 | 50-152 | 1 | 20 | ug/L | 10.08.13 19:53 | |
| Chloroform | <0.16 | 50 | 48 | 96 | 46 | 92 | 65-131 | 4 | 20 | ug/L | 10.08.13 19:53 | |
| Chloromethane | <0.25 | 50 | 44 | 88 | 42 | 84 | 48-151 | 5 | 20 | ug/L | 10.08.13 19:53 | |
| Cyclohexane | <0.15 | 50 | 45 | 90 | 45 | 90 | 61-141 | 0 | 20 | ug/L | 10.08.13 19:53 | |
| Dibromochloromethane | <0.15 | 50 | 51 | 102 | 51 | 102 | 53-125 | 0 | 20 | ug/L | 10.08.13 19:53 | |
| 1,2-Dibromo-3-chloropropane (DBCP) | <0.19 | 50 | 43 | 86 | 42 | 84 | 53-121 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| 1,2-Dibromoethane (EDB) | <0.18 | 50 | 48 | 96 | 49 | 98 | 66-125 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| 1,2-Dichlorobenzene | <0.14 | 50 | 49 | 98 | 47 | 94 | 58-124 | 4 | 20 | ug/L | 10.08.13 19:53 | |
| 1,3-Dichlorobenzene | <0.17 | 50 | 49 | 98 | 47 | 94 | 62-120 | 4 | 20 | ug/L | 10.08.13 19:53 | |
| 1,4-Dichlorobenzene | <0.17 | 50 | 46 | 92 | 45 | 90 | 64-114 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| Dichlorodifluoromethane | <0.22 | 50 | 53 | 106 | 52 | 104 | 38-145 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| 1,1-Dichloroethane | <0.11 | 50 | 52 | 104 | 49 | 98 | 69-132 | 6 | 20 | ug/L | 10.08.13 19:53 | |
| 1,2-Dichloroethane | <0.18 | 50 | 47 | 94 | 47 | 94 | 55-141 | 0 | 20 | ug/L | 10.08.13 19:53 | |
| 1,1-Dichloroethene | <0.20 | 50 | 48 | 96 | 47 | 94 | 62-131 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| cis-1,2-Dichloroethene | <0.21 | 50 | 54 | 108 | 51 | 102 | 22-185 | 6 | 20 | ug/L | 10.08.13 19:53 | |
| trans-1,2-Dichloroethene | <0.21 | 50 | 51 | 102 | 49 | 98 | 65-135 | 4 | 20 | ug/L | 10.08.13 19:53 | |
| 1,2-Dichloropropane | <0.15 | 50 | 47 | 94 | 47 | 94 | 78-121 | 0 | 20 | ug/L | 10.08.13 19:53 | |
| cis-1,3-Dichloropropene | <0.10 | 50 | 43 | 86 | 42 | 84 | 67-113 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| trans-1,3-Dichloropropene | <0.11 | 50 | 45 | 90 | 44 | 88 | 50-125 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| Ethylbenzene | <0.19 | 50 | 52 | 104 | 51 | 102 | 66-127 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| 2-Hexanone | <0.32 | 100 | 84 | 84 | 85 | 85 | 55-136 | 1 | 20 | ug/L | 10.08.13 19:53 | |
| Isopropylbenzene | <0.15 | 50 | 46 | 92 | 44 | 88 | 58-127 | 4 | 20 | ug/L | 10.08.13 19:53 | |
| Methyl acetate | <0.26 | 50 | 44 | 88 | 44 | 88 | 65-135 | 0 | 20 | ug/L | 10.08.13 19:53 | |
| Methylcyclohexane | <0.11 | 50 | 44 | 88 | 44 | 88 | 64-128 | 0 | 20 | ug/L | 10.08.13 19:53 | |
| Methylene chloride | <0.42 | 50 | 49 | 98 | 47 | 94 | 63-150 | 4 | 20 | ug/L | 10.08.13 19:53 | |
| 4-Methyl-2-pentanone (MIBK) | <0.26 | 100 | 86 | 86 | 86 | 86 | 65-132 | 0 | 20 | ug/L | 10.08.13 19:53 | |
| Methyl tert-butyl ether | <0.18 | 100 | 110 | 110 | 100 | 100 | 58-141 | 10 | 20 | ug/L | 10.08.13 19:53 | |
| Styrene | <0.18 | 50 | 46 | 92 | 46 | 92 | 50-133 | 0 | 20 | ug/L | 10.08.13 19:53 | |
| 1,1,2,2-Tetrachloroethane | <0.18 | 50 | 47 | 94 | 46 | 92 | 63-126 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| Tetrachloroethene | <0.16 | 50 | 47 | 94 | 46 | 92 | 52-125 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| Toluene | <0.14 | 50 | 49 | 98 | 48 | 96 | 65-123 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| 1,2,4-Trichlorobenzene | <0.17 | 50 | 43 | 86 | 46 | 92 | 34-131 | 7 | 20 | ug/L | 10.08.13 19:53 | |
| 1,1,1-Trichloroethane | <0.16 | 50 | 50 | 100 | 48 | 96 | 59-138 | 4 | 20 | ug/L | 10.08.13 19:53 | |
| 1,1,2-Trichloroethane | <0.25 | 50 | 47 | 94 | 46 | 92 | 72-115 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| Trichloroethene | <0.19 | 50 | 50 | 100 | 49 | 98 | 65-125 | 2 | 20 | ug/L | 10.08.13 19:53 | |
| Trichlorofluoromethane | <0.53 | 50 | 45 | 90 | 54 | 108 | 51-145 | 18 | 20 | ug/L | 10.08.13 19:53 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <0.11 | 50 | 53 | 106 | 51 | 102 | 53-138 | 4 | 20 | ug/L | 10.08.13 19:53 | |
| Vinyl chloride | <0.19 | 50 | 56 | 112 | 56 | 112 | 52-140 | 0 | 20 | ug/L | 10.08.13 19:53 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 95 | | 90 | | 53-159 | % | 10.08.13 19:53 |
| 4-Bromofluorobenzene | 98 | | 94 | | 30-186 | % | 10.08.13 19:53 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 924648 Matrix: Water Date Prep: 10.08.13
Parent Sample Id: 471569-001 MS Sample Id: 471569-001 S MSD Sample Id: 471569-001 SD

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| Toluene-D8 | 95 | | 96 | | 70-130 | % | 10.08.13 19:53 |

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 924769 Matrix: Water Date Prep: 10.09.13
Parent Sample Id: 471613-001 MS Sample Id: 471613-001 S MSD Sample Id: 471613-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | <0.21 | 50 | 57 | 114 | 49 | 98 | 22-185 | 15 | 20 | ug/L | 10.09.13 17:45 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 91 | | 79 | | 53-159 | % | 10.09.13 17:45 |
| 4-Bromofluorobenzene | 101 | | 102 | | 30-186 | % | 10.09.13 17:45 |
| Toluene-D8 | 95 | | 96 | | 70-130 | % | 10.09.13 17:45 |

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☑ 6017 Financial Drive, Norcross, Georgia 30071 770-449-8800
☐ Philadephia/New Jersey 610-955-5649
☐ South Carolina 803-543-8099 ☐ Other

# ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Serial #: 264499 Page 1 of 3

| | | | |
|---|---|---|---|
| **Company-City** | EIC, Atlanta GA | **Phone** | 770-772-7100 |
| **Proj Name-Location** | VOPAK Savannah ☐ Previously done at XENCO | **Project ID** | 390020 |
| **Proj State:** AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, TX, UT Other | | **Proj. Manager (PM)** | Alan Sanders |
| **e-Mail Results to** ☐ PM or | asanders@eicusa.com | **Fax No:** | 770-772-0353 |
| **Invoice to** ☐ Accounting ☑ Inc. Invoice with Final Report ☐ Invoice must have a P.O Bill to: | | | |
| **Quote/Pricing:** | **P.O No:** ☐ Call for P.O. | | |

**Lab Only:** WO # 471644

**TAT:** ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific.
It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

**Reg Program:** UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW GA HSRA

QAPP Per-Contract CLP AFCEE NAVY DOE DOD USACE OTHER:

**Special DLs** ( GW DW QAPP MDLs RLs See Lab PM Included Call PM )

Sampler Name Patrick Grayson Signature A. Patrick Grayson

| | Sample ID | Sampling Date | Time | Depth ft/in/m | Matrix | Composite | Grab | # Containers | Container Size | Container Type | Preservatives | VOCs Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs | VOCs PP TCL DW Appdx-1 Appdx-2 CALL Other: | PAHs | FL PRO DRO GRO MA EPH MA VPH | SVOCs: Full-List DW BN&AE TCL PP Appdx-2 CALL | OC Pesticides PCBs Herbicides OP Pesticides | Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx 2 | SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs) | EDB / DBCP | 8260 B | SW 9056 A chloride only | SM2540C | TAT ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d | Addn: PAH above mg/L W, mg/Kg S Highest Hit | Hold Samples (Surcharges will apply and are pre-approved) | Sample Clean-ups are pre-approved as needed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | LAW-PZ-8R | 10/3/2013 | 13:20 | | W | | X | 3 | 40 | C | H | | | | | | | | | | ✓ | | | | | | | 1 |
| 2 | PAN-MW-9 | 10/1/2013 | 11:08 | | W | | X | 3 | 40 | C | H | | | | | | | | | | ✓ | ✓ | ✓ | | | | | 2 |
| 3 | PAN-MW-10 | 10/2/2013 | 8:47 | | W | | X | 3 | 40 | C | H | | | | | | | | | | ✓ | | | | | | | 3 |
| 4 | MW-14 | 10/2/2013 | 11:11 | | W | | X | 5 | V | V | V | | | | | | | | | | ✓ | ✓ | ✓ | | | | | 4 |
| 5 | MW-16 | 10/3/2013 | 9:56 | | W | | X | 5 | V | V | V | | | | | | | | | | ✓ | ✓ | ✓ | | | | | 5 |
| 6 | MW-17R | 10/2/2013 | 17:20 | | W | | X | 3 | 40 | C | H | | | | | | | | | | ✓ | | | | | | | 6 |
| 7 | IW-18 | 10/3/13 | 11:36 | | W | | X | 3 | 40 | C | H | | | | | | | | | | ✓ | | | | | | | 7 |
| 8 | MW-18R | 10/1/2013 | 18:28 | | W | | X | 3 | 40 | C | H | | | | | | | | | | ✓ | | | | | | | 8 |
| 9 | MW-19 | 10/3/2013 | 19:05 | | W | | X | 3 | 40 | C | H | | | | | | | | | | ✓ | | | | | | | 9 |
| 10 | MW-23 | 10/1/2013 | 17:00 | | W | | X | 3 | 40 | C | H | | | | | | | | | | ✓ | | | | | | | 10 |

| | Relinquished by ( Initials and Sign) | Date & Time | Relinquished to ( Initials and Sign) | Date & Time |
|---|---|---|---|---|
| 1 | 1) A. Patrick Grayson | 17:50 10/4/2013 | 2) Hugo Arce | 10/4/13 17:50 |
| 2 | 3) | | 4) | |
| 3 | 5) | | 6) | |

Total Containers per COC: Cooler Temp: 2.6°C

By signings this COC you accept XENCO terms and Conditions unless otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved.

**Preservatives:** Various (**V**), HCl pH<2 (**H**), H2SO4 pH<2 (**S**), HNO3 pH<2 (**N**), Asbc Acid&NaOH (**A**), ZnAc&NaOH (**Z**), (Cool,<4C) (**C**), None (**NA**), See Label (**L**), Other (**O**) _____

**Cont. Size:** 4oz (**4**), 8oz (**8**), 32oz (**32**), 40ml VOA (**40**), 1L (**1**), 500ml (**5**), Tedlar Bag (**B**), Various (V), Other _____ **Cont. Type:** Glass Amb (**A**), Glass Clear (**C**), Plastic (**P**), Various (**V**)

**Matrix:** Air (**A**), Product (**P**), Solid(**S**), Water (**W**), Liquid (**L**)

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☐ South Carolina 803-543-8099 ☐ Other

# ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Serial #: 264501 Page 2 of 3

**Company-City:** EIC, Atlanta GA **Phone:** 770-772-7100
**Lab Only:** WO# 471944
**Proj Name-Location:** VOPAK Savannah ☐ Previously done at XENCO **Project ID:** 390020
**TAT:** ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.
**Proj State:** AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, TX, UT Other **Proj. Manager (PM):** Alan Sanders
**e-Mail Results to** ☐ PM or asanders@eicusa.com **Fax No:**
**Invoice to** ☐ Accounting ☒ Inc. Invoice with Final Report ☐ Invoice must have a P.O Bill to:
**Quote/Pricing:** **P.O No:** ☐ Call for P.O.
**Reg Program:** UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW GA HSRA
QAPP Per-Contract CLP AFCEE NAVY DOE DOD USACE OTHER:
**Special DLs** ( GW DW QAPP MDLs RLs See Lab PM Included Call PM )
Sampler Name: Patrick Grayson Signature: A. Patrick Grayson

| | Sample ID | Sampling Date | Time | Depth ft In m | Matrix | Composite | Grab | # Containers | Container Size | Container Type | Preservatives | VOCs Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs | VOCs PP TCL DW Appdx-1 Appdx-2 CALL Other: | PAHs | FL PRO DRO GRO MA EPH MA VPH | SVOCs: Full-List DW BN&AE TCL PP Appdx-2 CALL | OC Pesticides PCBs Herbicides OP Pesticides | Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx 2 | SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs) | EDB / DBCP | 8260B SW 8056 A chloride only SM 2540C | TAT ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d | Addn: PAH above mg/L W, mg/Kg S Highest Hit | Hold Samples (Surcharges will apply and are pre-approved) | Sample Clean-ups are pre-approved as needed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MW-24R | 10/2/2013 | 10:07 | | W | | X | 3 | 40 | C | H | | | | | | | | | | V | | | | | 1 |
| 2 | MW-25 | 10/3/2013 | 18:25 | | W | | X | 3 | 40 | C | H | | | | | | | | | | V | | | | | 2 |
| 3 | MW-26R | 10/3/2013 | 17:34 | | W | | X | 3 | 40 | C | H | | | | | | | | | | V | | | | | 3 |
| 4 | MW-27 | 10/1/2013 | 15:25 | | W | | X | 3 | 40 | C | H | | | | | | | | | | V | | | | | 4 |
| 5 | MW-29 | 10/1/2013 | 12:39 | | W | | X | 3 | 40 | C | H | | | | | | | | | | V | | | | | 5 |
| 6 | MW-30 | 10/3/2013 | 16:10 | | W | | X | 5 | V | V | V | | | | | | | | | | V | V | V | | | 6 |
| 7 | MW-32 | 10/2/2013 | 18:25 | | W | | X | 5 | V | V | V | | | | | | | | | | V | V | V | | | 7 |
| 8 | MW-33 | 10/2/2013 | 12:27 | | W | | X | 3 | 40 | C | H | | | | | | | | | | V | | | | | 8 |
| 9 | MW-34 | 10/2/2013 | 14:50 | | W | | X | 3 | 40 | C | H | | | | | | | | | | V | | | | | 9 |
| 10 | | | | | ~~W~~ | | ~~X~~ | | ~~40~~ | | | | | | | | | | | | | | | | | 10 |

| Relinquished by ( Initials and Sign) | Date & Time | Relinquished to ( Initials and Sign) | Date & Time | Total Containers per COC: | Cooler Temp: |
|---|---|---|---|---|---|
| 1) A. Patrick Grayson | 17:50 10/4/2013 | 2) Hugo Arez | 10/4/13 17:50 | | |
| 3) | | 4) | | | |
| 5) | | 6) | | | |

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**Preservatives:** Various (**V**), HCl pH<2 (**H**), H2SO4 pH<2 (**S**), HNO3 pH<2 (**N**), Asbc Acid&NaOH (**A**), ZnAc&NaOH (**Z**), (Cool,<4C) (**C**), None (**NA**), See Label (**L**), Other (**O**) _____

**Cont. Size:** 4oz (**4**), 8oz (**8**), 32oz (**32**), 40ml VOA (**40**), 1L (**1**), 500ml (**5**), Tedlar Bag (**B**), Various (V), Other _____ **Cont. Type:** Glass Amb (**A**), Glass Clear (**C**), Plastic (**P**), Various (**V**)

**Matrix:** Air (**A**), Product (**P**), Solid(**S**), Water (**W**), Liquid (**L**)

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# ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Serial #: 264500 Page 3 of 3

| | |
|---|---|
| **Company-City** EIC, Atlanta GA | **Phone** 770-772-7100 |
| **Lab Only:** | CWO# 471644 |
| **Proj Name-Location** VOPAK Savannah ☐ Previously done at XENCO | **Project ID** 390020 |
| **TAT:** ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data. | |
| **Proj State:** AL, FL ,GA, LA, MS, NC, NJ, PA, SC, TN, TX , UT Other | **Proj. Manager (PM)** Alan Sanders |
| **e-Mail Results** to ☒ PM or asanders@eicusa.com | **Fax No:** |
| **Invoice to** ☐ Accounting ☒ Inc. Invoice with Final Report ☐ Invoice must have a P.O Bill to: | |
| **Quote/Pricing:** | **P.O No:** ☐ Call for P.O. |
| **Reg Program:** UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW GA HSRA | |
| QAPP Per-Contract CLP AFCEE NAVY DOE DOD USACE OTHER: | |
| **Special DLs** ( GW DW QAPP MDLs RLs See Lab PM Included Call PM ) | |
| Sampler Name Patrick Grayson Signature A. Patrick Grayson | |

| | Sample ID | Sampling Date | Time | Depth ft' In" m | Matrix | Composite | Grab | # Containers | Container Size | Container Type | Preservatives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Stilling Well H | 10/3/2013 | 8:45 | | W | | X | 2 | V | P | C |
| 2 | Stilling Well L | 10/3/2013 | 15:05 | | W | | X | 2 | V | P | C |
| 3 | Trip Blank | | | | W | | | 4 | 40 | C | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |

VOCs Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs
VOCs PP TCL DW Appdx-1 Appdx-2 CALL Other:
PAHs
FL PRO DRO GRO MA EPH MA VPH
SVOCs: Full-List DW BN&AE TCL PP Appdx-2 CALL
OC Pesticides PCBs Herbicides OP Pesticides
Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx 2
SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)
EDB / DBCP
8260B
SW9056A chloride only
SM2540C

| | | | | | | | | | | |

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Florida Testing Services, LLC

**Client:** Environmental International Corporation

**Date/ Time Received:** 10/04/2013 05:50:00 PM

**Work Order #:** 471644

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : #61**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 2.6 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **N/A** |
| #5 Custody Seals intact on sample bottles? | **N/A** |
| #6 *Custody Seals Signed and dated? | **N/A** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Sample instructions complete on Chain of Custody? | **Yes** |
| #9 Any missing/extra samples? | **No** |
| #10 Chain of Custody signed when relinquished/ received? | **Yes** |
| #11 Chain of Custody agrees with sample label(s)? | **Yes** |
| #12 Container label(s) legible and intact? | **Yes** |
| #13 Sample matrix/ properties agree with Chain of Custody? | **Yes** |
| #14 Samples in proper container/ bottle? | **Yes** |
| #15 Samples properly preserved? | **N/A** |
| #16 Sample container(s) intact? | **Yes** |
| #17 Sufficient sample amount for indicated test(s)? | **Yes** |
| #18 All samples received within hold time? | **Yes** |
| #19 Subcontract of sample(s)? | **No** |
| #20 VOC samples have zero headspace (less than 1/4 inch bubble)? | **Yes** |
| #21 <2 for all samples preserved with HNO3,HCL, H2SO4? | **N/A** |
| #22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? | **N/A** |

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

| Analyst: | PH Device/Lot#: |
|---|---|

**Checklist completed by:** Dario Lagunas Date: 10/05/2013

**Checklist reviewed by:** Eben Buchanan Date: 10/07/2013

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# FIFTH SEMIANNUAL PROGRESS REPORT

# ATTACHMENT E

# Analytical Report 477891

## for

## Environmental International Corporation

**Project Manager: Alan Sanders**

**VOPAK-Savannah**

**390020**

**04-FEB-14**

Collected By: Client


**6017 Financial Dr., Norcross, GA 30071**
**Ph:(770) 449-8800 Fax:(770) 449-5477**


Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories
Florida Testing Services, LLC

04-FEB-14

Project Manager: **Alan Sanders**
**Environmental International Corporation**
161 Kimball Bridge Road, Suite 100
Alpharetta, GA 30009

Reference: XENCO Report No(s): **477891**
**VOPAK-Savannah**
Project Address: GA

**Alan Sanders**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 477891. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 477891 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Eben D. Buchanan, Jr.

**Eben Buchanan**
Project Manager

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***
*Certified and approved by numerous States and Agencies.*
*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America

# Sample Cross Reference 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| IW-18 | W | 01-19-14 18:25 | | 477891-001 |
| LAW-PZ-8R | W | 01-19-14 17:31 | | 477891-002 |
| MW-14 | W | 01-19-14 10:19 | | 477891-003 |
| MW-16 | W | 01-20-14 18:21 | | 477891-004 |
| MW-17R | W | 01-21-14 10:03 | | 477891-005 |
| MW-18R | W | 01-20-14 08:56 | | 477891-006 |
| MW-19 | W | 01-20-14 10:54 | | 477891-007 |
| MW-23 | W | 01-20-14 15:37 | | 477891-008 |
| MW-24R | W | 01-19-14 12:40 | | 477891-009 |
| MW-25 | W | 01-20-14 10:05 | | 477891-010 |
| MW-26R | W | 01-20-14 12:57 | | 477891-011 |
| MW-27 | W | 01-20-14 13:58 | | 477891-012 |
| MW-29 | W | 01-19-14 11:56 | | 477891-013 |
| MW-30 | W | 01-19-14 16:06 | | 477891-014 |
| MW-31 | W | 01-20-14 14:52 | | 477891-015 |
| MW-32 | W | 01-21-14 10:43 | | 477891-016 |
| MW-33 | W | 01-19-14 15:33 | | 477891-017 |
| MW-34 | W | 01-20-14 16:26 | | 477891-018 |
| MW-35 | W | 01-21-14 09:03 | | 477891-019 |
| MW-36 | W | 01-21-14 11:15 | | 477891-020 |
| MW-37 | W | 01-20-14 17:11 | | 477891-021 |
| PAN-MW-9 | W | 01-19-14 11:04 | | 477891-022 |
| PAN-MW-10 | W | 01-19-14 14:56 | | 477891-023 |
| TRIP BLANK | W | 01-19-14 00:00 | | 477891-024 |

**Sample receipt non conformances and comments:**

This revised report replaces the report issued on January 31, 2014.
The report was revised to include the dilution analysis of Sample MW-37 (477891-021) for cis-1,2-Dichloroethene.

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-932992 VOCs by SW-846 8260B
Trichloroethene recovered above QC limits in the Matrix Spike. Bromoform recovered above QC limits in the Matrix Spike Duplicate. Samples affected are: 477891-008.
The Laboratory Control Sample for Trichloroethene, Bromoform is within laboratory Control Limits

Batch: LBA-933016 VOCs by SW-846 8260B
Bromoform, cis-1,3-Dichloropropene recovered above QC limits in the Matrix Spike.
Samples affected are: 477891-023.
The Laboratory Control Sample for cis-1,3-Dichloropropene, Bromoform is within laboratory Control Limits

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **IW-18**
Lab Sample Id: 477891-001

Matrix: Water
Date Collected: 01.19.14 18.25

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932827

Prep Method: SW5030B
% Moisture:

Date Prep: 01.25.14 09.21

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Acetone** | 67-64-1 | **110** | 20 | 3.5 | ug/L | 01.25.14 20.11 | | 10 |
| **Benzene** | 71-43-2 | **60** | 10 | 1.6 | ug/L | 01.25.14 20.11 | | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 01.25.14 20.11 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 01.25.14 20.11 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 01.25.14 20.11 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 01.25.14 20.11 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 01.25.14 20.11 | U | 10 |
| **Chlorobenzene** | 108-90-7 | **460** | 10 | 1.5 | ug/L | 01.25.14 20.11 | | 10 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 01.25.14 20.11 | U | 10 |
| 2-Butanone (MEK) | 78-93-3 | <2.8 | 20 | 2.8 | ug/L | 01.25.14 20.11 | U | 10 |
| Chloroform | 67-66-3 | <1.6 | 10 | 1.6 | ug/L | 01.25.14 20.11 | U | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 01.25.14 20.11 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 01.25.14 20.11 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 01.25.14 20.11 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 01.25.14 20.11 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 01.25.14 20.11 | U | 10 |
| 1,2-Dichlorobenzene | 95-50-1 | <1.4 | 10 | 1.4 | ug/L | 01.25.14 20.11 | U | 10 |
| **1,3-Dichlorobenzene** | 541-73-1 | **20** | 10 | 1.7 | ug/L | 01.25.14 20.11 | | 10 |
| **1,4-Dichlorobenzene** | 106-46-7 | **210** | 10 | 1.7 | ug/L | 01.25.14 20.11 | | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 01.25.14 20.11 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 01.25.14 20.11 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 01.25.14 20.11 | U | 10 |
| 1,1-Dichloroethene | 75-35-4 | <2.0 | 10 | 2.0 | ug/L | 01.25.14 20.11 | U | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **5300** | 1000 | 210 | ug/L | 01.25.14 13.50 | D | 1000 |
| **trans-1,2-Dichloroethene** | 156-60-5 | **31** | 10 | 2.1 | ug/L | 01.25.14 20.11 | | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 01.25.14 20.11 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 01.25.14 20.11 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 01.25.14 20.11 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **100** | 10 | 1.9 | ug/L | 01.25.14 20.11 | | 10 |
| 2-Hexanone | 591-78-6 | <3.2 | 20 | 3.2 | ug/L | 01.25.14 20.11 | U | 10 |
| Isopropylbenzene | 98-82-8 | <1.5 | 10 | 1.5 | ug/L | 01.25.14 20.11 | U | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 01.25.14 20.11 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 01.25.14 20.11 | U | 10 |
| **Methylene chloride** | 75-09-2 | **21** | 10 | 4.2 | ug/L | 01.25.14 20.11 | | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 01.25.14 20.11 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 01.25.14 20.11 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 01.25.14 20.11 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 01.25.14 20.11 | U | 10 |
| **Tetrachloroethene** | 127-18-4 | **19** | 10 | 1.6 | ug/L | 01.25.14 20.11 | | 10 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **IW-18**
Lab Sample Id: 477891-001

Matrix: Water
Date Collected: 01.19.14 18.25

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932827

Prep Method: SW5030B
% Moisture:

Date Prep: 01.25.14 09.21

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **24** | 10 | 1.4 | ug/L | 01.25.14 20.11 | | 10 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **100** | 10 | 1.7 | ug/L | 01.25.14 20.11 | | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 01.25.14 20.11 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 01.25.14 20.11 | U | 10 |
| **Trichloroethene** | 79-01-6 | **28** | 10 | 1.9 | ug/L | 01.25.14 20.11 | | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 01.25.14 20.11 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 01.25.14 20.11 | U | 10 |
| **Vinyl chloride** | 75-01-4 | **1900** | 10 | 1.9 | ug/L | 01.25.14 20.11 | | 10 |
| **Xylenes, Total** | 1330-20-7 | **810** | 10 | 2.0 | ug/L | 01.25.14 20.11 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 104 | % | 53-159 | 01.25.14 20.11 | |
| 4-Bromofluorobenzene | 460-00-4 | 108 | % | 30-186 | 01.25.14 20.11 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 01.25.14 20.11 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **LAW-PZ-8R** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-002 Date Collected: 01.19.14 17.31

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.25.14 09.21

Seq Number: 932827

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Acetone** | 67-64-1 | **13000** | 1000 | 180 | ug/L | 01.28.14 14.14 | D | 500 |
| **Benzene** | 71-43-2 | **1200** | 10 | 1.6 | ug/L | 01.25.14 20.38 | | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 01.25.14 20.38 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 01.25.14 20.38 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 01.25.14 20.38 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 01.25.14 20.38 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 01.25.14 20.38 | U | 10 |
| **Chlorobenzene** | 108-90-7 | **3200** | 500 | 75.0 | ug/L | 01.28.14 14.14 | D | 500 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 01.25.14 20.38 | U | 10 |
| **2-Butanone (MEK)** | 78-93-3 | **300** | 20 | 2.8 | ug/L | 01.25.14 20.38 | | 10 |
| Chloroform | 67-66-3 | <1.6 | 10 | 1.6 | ug/L | 01.25.14 20.38 | U | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 01.25.14 20.38 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 01.25.14 20.38 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 01.25.14 20.38 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 01.25.14 20.38 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 01.25.14 20.38 | U | 10 |
| **1,2-Dichlorobenzene** | 95-50-1 | **230** | 10 | 1.4 | ug/L | 01.25.14 20.38 | | 10 |
| **1,3-Dichlorobenzene** | 541-73-1 | **110** | 10 | 1.7 | ug/L | 01.25.14 20.38 | | 10 |
| **1,4-Dichlorobenzene** | 106-46-7 | **880** | 10 | 1.7 | ug/L | 01.25.14 20.38 | | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 01.25.14 20.38 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 01.25.14 20.38 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 01.25.14 20.38 | U | 10 |
| **1,1-Dichloroethene** | 75-35-4 | **19** | 10 | 2.0 | ug/L | 01.25.14 20.38 | | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **7200** | 1000 | 210 | ug/L | 01.25.14 14.15 | D | 1000 |
| **trans-1,2-Dichloroethene** | 156-60-5 | **19** | 10 | 2.1 | ug/L | 01.25.14 20.38 | | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 01.25.14 20.38 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 01.25.14 20.38 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 01.25.14 20.38 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **4000** | 1000 | 190 | ug/L | 01.25.14 14.15 | D | 1000 |
| 2-Hexanone | 591-78-6 | <3.2 | 20 | 3.2 | ug/L | 01.25.14 20.38 | U | 10 |
| Isopropylbenzene | 98-82-8 | <1.5 | 10 | 1.5 | ug/L | 01.25.14 20.38 | U | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 01.25.14 20.38 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 01.25.14 20.38 | U | 10 |
| Methylene chloride | 75-09-2 | <4.2 | 10 | 4.2 | ug/L | 01.25.14 20.38 | U | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 01.25.14 20.38 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 01.25.14 20.38 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 01.25.14 20.38 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 01.25.14 20.38 | U | 10 |
| **Tetrachloroethene** | 127-18-4 | **38** | 10 | 1.6 | ug/L | 01.25.14 20.38 | | 10 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **LAW-PZ-8R** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-002 Date Collected: 01.19.14 17.31

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.25.14 09.21

Seq Number: 932827

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **370** | 10 | 1.4 | ug/L | 01.25.14 20.38 | | 10 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **190** | 10 | 1.7 | ug/L | 01.25.14 20.38 | | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 01.25.14 20.38 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 01.25.14 20.38 | U | 10 |
| Trichloroethene | 79-01-6 | <1.9 | 10 | 1.9 | ug/L | 01.25.14 20.38 | U | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 01.25.14 20.38 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 01.25.14 20.38 | U | 10 |
| **Vinyl chloride** | 75-01-4 | **980** | 10 | 1.9 | ug/L | 01.25.14 20.38 | | 10 |
| **Xylenes, Total** | 1330-20-7 | **88000** | 500 | 100 | ug/L | 01.28.14 14.14 | | 500 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 103 | % | 53-159 | 01.25.14 20.38 | |
| 4-Bromofluorobenzene | 460-00-4 | 109 | % | 30-186 | 01.25.14 20.38 | |
| Toluene-D8 | 2037-26-5 | 93 | % | 70-130 | 01.25.14 20.38 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-14** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-003 Date Collected: 01.19.14 10.19

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MWE Date Prep: 01.27.14 21.29

Seq Number: 933016

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.28.14 02.21 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 02.21 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 02.21 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.28.14 02.21 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 02.21 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.28.14 02.21 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.28.14 02.21 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 02.21 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.28.14 02.21 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.28.14 02.21 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 02.21 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 02.21 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 02.21 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.28.14 02.21 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.28.14 02.21 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 01.28.14 02.21 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 02.21 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.28.14 02.21 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 02.21 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 02.21 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.28.14 02.21 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 02.21 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.28.14 02.21 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 02.21 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.28.14 02.21 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.28.14 02.21 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.28.14 02.21 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 02.21 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 02.21 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-14**
Lab Sample Id: 477891-003

Matrix: Water
Date Collected: 01.19.14 10.19

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MWE
Seq Number: 933016

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 21.29

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 02.21 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 02.21 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.28.14 02.21 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 02.21 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 02.21 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.28.14 02.21 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 104 | % | 53-159 | 01.28.14 02.21 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 01.28.14 02.21 | |
| Toluene-D8 | 2037-26-5 | 98 | % | 70-130 | 01.28.14 02.21 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-16** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-004 Date Collected: 01.20.14 18.21

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.25.14 09.21

Seq Number: 932827

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.25.14 12.36 | U | 1 |
| **Benzene** | 71-43-2 | **1.5** | 1.0 | 0.16 | ug/L | 01.25.14 12.36 | | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 12.36 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 12.36 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 12.36 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.25.14 12.36 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.25.14 12.36 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 12.36 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.25.14 12.36 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.25.14 12.36 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 12.36 | U | 1 |
| **Chloromethane** | 74-87-3 | **1.8** | 1.0 | 0.25 | ug/L | 01.25.14 12.36 | | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 12.36 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 12.36 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.25.14 12.36 | U | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **170** | 1.0 | 0.21 | ug/L | 01.25.14 12.36 | | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 12.36 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.25.14 12.36 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 12.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 12.36 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.25.14 12.36 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 12.36 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.25.14 12.36 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 12.36 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.25.14 12.36 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.25.14 12.36 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.25.14 12.36 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 12.36 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 12.36 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-16**
Lab Sample Id: 477891-004

Matrix: Water
Date Collected: 01.20.14 18.21

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932827

Prep Method: SW5030B
% Moisture:

Date Prep: 01.25.14 09.21

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 12.36 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 12.36 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.25.14 12.36 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 12.36 | U | 1 |
| **Vinyl chloride** | 75-01-4 | **180** | 1.0 | 0.19 | ug/L | 01.25.14 12.36 | | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.25.14 12.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 111 | % | 53-159 | 01.25.14 12.36 | |
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 30-186 | 01.25.14 12.36 | |
| Toluene-D8 | 2037-26-5 | 100 | % | 70-130 | 01.25.14 12.36 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-17R** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-005 Date Collected: 01.21.14 10.03

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.25.14 09.21

Seq Number: 932827

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.25.14 13.00 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 13.00 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 13.00 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 13.00 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 13.00 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.25.14 13.00 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.25.14 13.00 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 13.00 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.25.14 13.00 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.25.14 13.00 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 13.00 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 13.00 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 13.00 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 13.00 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.25.14 13.00 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 01.25.14 13.00 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 13.00 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.25.14 13.00 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 13.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 13.00 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.25.14 13.00 | U | 1 |
| **Isopropylbenzene** | 98-82-8 | **60** | 1.0 | 0.15 | ug/L | 01.25.14 13.00 | | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.25.14 13.00 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 13.00 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.25.14 13.00 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.25.14 13.00 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.25.14 13.00 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 13.00 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 13.00 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-17R**
Lab Sample Id: 477891-005

Matrix: Water
Date Collected: 01.21.14 10.03

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932827

Prep Method: SW5030B
% Moisture:

Date Prep: 01.25.14 09.21

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 13.00 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 13.00 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.25.14 13.00 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 13.00 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 13.00 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.25.14 13.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 110 | % | 53-159 | 01.25.14 13.00 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 30-186 | 01.25.14 13.00 | |
| Toluene-D8 | 2037-26-5 | 88 | % | 70-130 | 01.25.14 13.00 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-18R** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-006 Date Collected: 01.20.14 08.56

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.25.14 09.21

Seq Number: 932827

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.25.14 13.25 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 13.25 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 13.25 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 13.25 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 13.25 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.25.14 13.25 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.25.14 13.25 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 13.25 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.25.14 13.25 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.25.14 13.25 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 13.25 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 13.25 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 13.25 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 13.25 | U | 1 |
| **Dichlorodifluoromethane** | 75-71-8 | **4.9** | 1.0 | 0.22 | ug/L | 01.25.14 13.25 | | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.25.14 13.25 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 01.25.14 13.25 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 13.25 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.25.14 13.25 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 13.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 13.25 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.25.14 13.25 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 13.25 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.25.14 13.25 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 13.25 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.25.14 13.25 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.25.14 13.25 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.25.14 13.25 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 13.25 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 13.25 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-18R** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-006 Date Collected: 01.20.14 08.56

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.25.14 09.21

Seq Number: 932827

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 13.25 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 13.25 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.25.14 13.25 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 13.25 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 13.25 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.25.14 13.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 108 | % | 53-159 | 01.25.14 13.25 | |
| 4-Bromofluorobenzene | 460-00-4 | 105 | % | 30-186 | 01.25.14 13.25 | |
| Toluene-D8 | 2037-26-5 | 101 | % | 70-130 | 01.25.14 13.25 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-19** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-007 Date Collected: 01.20.14 10.54

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.27.14 06.37

Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.27.14 10.09 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 10.09 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 10.09 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 10.09 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 10.09 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 10.09 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.27.14 10.09 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 10.09 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 10.09 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.27.14 10.09 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 10.09 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 10.09 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 10.09 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 10.09 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 10.09 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 10.09 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 10.09 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.27.14 10.09 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 10.09 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 10.09 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.27.14 10.09 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 10.09 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 10.09 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 10.09 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.27.14 10.09 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 10.09 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.27.14 10.09 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 10.09 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 10.09 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-19**
Lab Sample Id: 477891-007

Matrix: Water
Date Collected: 01.20.14 10.54

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932992

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 06.37

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 10.09 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 10.09 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.27.14 10.09 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 10.09 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 10.09 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 10.09 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 103 | % | 53-159 | 01.27.14 10.09 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 30-186 | 01.27.14 10.09 | |
| Toluene-D8 | 2037-26-5 | 97 | % | 70-130 | 01.27.14 10.09 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-23** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-008 Date Collected: 01.20.14 15.37

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.27.14 06.37

Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.27.14 10.36 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 10.36 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 10.36 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 10.36 | UX | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 10.36 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 10.36 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.27.14 10.36 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 10.36 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 10.36 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.27.14 10.36 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 10.36 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 10.36 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 10.36 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 10.36 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 10.36 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 10.36 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 10.36 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.27.14 10.36 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 10.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 10.36 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.27.14 10.36 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 10.36 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 10.36 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 10.36 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.27.14 10.36 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 10.36 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.27.14 10.36 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 10.36 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 10.36 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-23**
Lab Sample Id: 477891-008

Matrix: Water
Date Collected: 01.20.14 15.37

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932992

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 06.37

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 10.36 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 10.36 | UX | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.27.14 10.36 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 10.36 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 10.36 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 10.36 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 103 | % | 53-159 | 01.27.14 10.36 | |
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 30-186 | 01.27.14 10.36 | |
| Toluene-D8 | 2037-26-5 | 98 | % | 70-130 | 01.27.14 10.36 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-24R** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-009 Date Collected: 01.19.14 12.40

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.27.14 06.37

Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Acetone** | 67-64-1 | **9.1** | 2.0 | 0.35 | ug/L | 01.27.14 14.41 | | 1 |
| **Benzene** | 71-43-2 | **6.1** | 1.0 | 0.16 | ug/L | 01.27.14 14.41 | | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 14.41 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 14.41 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 14.41 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 14.41 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.27.14 14.41 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 14.41 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 14.41 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.27.14 14.41 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 14.41 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 14.41 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 14.41 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 14.41 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 14.41 | U | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **570** | 10.0 | 2.10 | ug/L | 01.27.14 15.41 | D | 10 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 14.41 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.27.14 14.41 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 14.41 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 14.41 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.27.14 14.41 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 14.41 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 14.41 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 14.41 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.27.14 14.41 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 14.41 | U | 1 |
| **Methyl tert-butyl ether** | 1634-04-4 | **230** | 2.0 | 0.18 | ug/L | 01.27.14 14.41 | | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 14.41 | U | 1 |
| **Tetrachloroethene** | 127-18-4 | **2.6** | 1.0 | 0.16 | ug/L | 01.27.14 14.41 | | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-24R**
Lab Sample Id: 477891-009

Matrix: Water
Date Collected: 01.19.14 12.40

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932992

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 06.37

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 14.41 | U | 1 |
| **Trichloroethene** | 79-01-6 | **4.4** | 1.0 | 0.19 | ug/L | 01.27.14 14.41 | | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.27.14 14.41 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 14.41 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 14.41 | U | 1 |
| **Xylenes, Total** | 1330-20-7 | **2.7** | 1.0 | 0.20 | ug/L | 01.27.14 14.41 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 104 | % | 53-159 | 01.27.14 14.41 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 01.27.14 14.41 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 01.27.14 14.41 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-25** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-010 Date Collected: 01.20.14 10.05

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.27.14 06.37

Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.27.14 11.03 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.03 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.03 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.03 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.03 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 11.03 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.27.14 11.03 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.03 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 11.03 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.27.14 11.03 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.03 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.03 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.03 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.03 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 11.03 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 11.03 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.03 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.27.14 11.03 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.03 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 11.03 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.27.14 11.03 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.03 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 11.03 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.03 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.27.14 11.03 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 11.03 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.27.14 11.03 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.03 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.03 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-25**
Lab Sample Id: 477891-010

Matrix: Water
Date Collected: 01.20.14 10.05

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932992

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 06.37

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.03 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 11.03 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.27.14 11.03 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.03 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 11.03 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 11.03 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 103 | % | 53-159 | 01.27.14 11.03 | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 30-186 | 01.27.14 11.03 | |
| Toluene-D8 | 2037-26-5 | 98 | % | 70-130 | 01.27.14 11.03 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-26R** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-011 Date Collected: 01.20.14 12.57

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MWE Date Prep: 01.27.14 21.29

Seq Number: 933016

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <3.5 | 20 | 3.5 | ug/L | 01.28.14 02.51 | U | 10 |
| **Benzene** | 71-43-2 | **110** | 10 | 1.6 | ug/L | 01.28.14 02.51 | | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 02.51 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 01.28.14 02.51 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 02.51 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 01.28.14 02.51 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 01.28.14 02.51 | U | 10 |
| **Chlorobenzene** | 108-90-7 | **330** | 10 | 1.5 | ug/L | 01.28.14 02.51 | | 10 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 01.28.14 02.51 | U | 10 |
| 2-Butanone (MEK) | 78-93-3 | <2.8 | 20 | 2.8 | ug/L | 01.28.14 02.51 | U | 10 |
| Chloroform | 67-66-3 | <1.6 | 10 | 1.6 | ug/L | 01.28.14 02.51 | U | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 02.51 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 01.28.14 02.51 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 01.28.14 02.51 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 01.28.14 02.51 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 02.51 | U | 10 |
| 1,2-Dichlorobenzene | 95-50-1 | <1.4 | 10 | 1.4 | ug/L | 01.28.14 02.51 | U | 10 |
| **1,3-Dichlorobenzene** | 541-73-1 | **11** | 10 | 1.7 | ug/L | 01.28.14 02.51 | | 10 |
| **1,4-Dichlorobenzene** | 106-46-7 | **11** | 10 | 1.7 | ug/L | 01.28.14 02.51 | | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 01.28.14 02.51 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 02.51 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 02.51 | U | 10 |
| 1,1-Dichloroethene | 75-35-4 | <2.0 | 10 | 2.0 | ug/L | 01.28.14 02.51 | U | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **68** | 10 | 2.1 | ug/L | 01.28.14 02.51 | | 10 |
| trans-1,2-Dichloroethene | 156-60-5 | <2.1 | 10 | 2.1 | ug/L | 01.28.14 02.51 | U | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 01.28.14 02.51 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 01.28.14 02.51 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 02.51 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **200** | 10 | 1.9 | ug/L | 01.28.14 02.51 | | 10 |
| 2-Hexanone | 591-78-6 | <3.2 | 20 | 3.2 | ug/L | 01.28.14 02.51 | U | 10 |
| **Isopropylbenzene** | 98-82-8 | **11** | 10 | 1.5 | ug/L | 01.28.14 02.51 | | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 01.28.14 02.51 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 02.51 | U | 10 |
| Methylene chloride | 75-09-2 | <4.2 | 10 | 4.2 | ug/L | 01.28.14 02.51 | U | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 01.28.14 02.51 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 01.28.14 02.51 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 02.51 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 02.51 | U | 10 |
| Tetrachloroethene | 127-18-4 | <1.6 | 10 | 1.6 | ug/L | 01.28.14 02.51 | U | 10 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-26R** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-011 Date Collected: 01.20.14 12.57

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MWE Date Prep: 01.27.14 21.29

Seq Number: 933016

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **11** | 10 | 1.4 | ug/L | 01.28.14 02.51 | | 10 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <1.7 | 10 | 1.7 | ug/L | 01.28.14 02.51 | U | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 01.28.14 02.51 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 02.51 | U | 10 |
| Trichloroethene | 79-01-6 | <1.9 | 10 | 1.9 | ug/L | 01.28.14 02.51 | U | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 01.28.14 02.51 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 02.51 | U | 10 |
| Vinyl chloride | 75-01-4 | <1.9 | 10 | 1.9 | ug/L | 01.28.14 02.51 | U | 10 |
| **Xylenes, Total** | 1330-20-7 | **7200** | 10 | 2.0 | ug/L | 01.28.14 04.20 | | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 101 | % | 53-159 | 01.28.14 02.51 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 01.28.14 02.51 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 01.28.14 02.51 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-27** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-012 Date Collected: 01.20.14 13.58

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.27.14 06.37

Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.27.14 11.30 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.30 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.30 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.30 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.30 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 11.30 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.27.14 11.30 | U | 1 |
| **Chlorobenzene** | 108-90-7 | **4.3** | 1.0 | 0.15 | ug/L | 01.27.14 11.30 | | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 11.30 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.27.14 11.30 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.30 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.30 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.30 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.30 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 11.30 | U | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **2.1** | 1.0 | 0.21 | ug/L | 01.27.14 11.30 | | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.30 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.27.14 11.30 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.30 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 11.30 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.27.14 11.30 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.30 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 11.30 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.30 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.27.14 11.30 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 11.30 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.27.14 11.30 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.30 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.30 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-27**
Matrix: Water
Date Received:01.22.14 11.26
Lab Sample Id: 477891-012
Date Collected: 01.20.14 13.58

Analytical Method: VOCs by SW-846 8260B
Prep Method: SW5030B
Tech: MWE
% Moisture:
Analyst: MLA
Date Prep: 01.27.14 06.37
Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.30 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 11.30 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.27.14 11.30 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.30 | U | 1 |
| **Vinyl chloride** | 75-01-4 | **13** | 1.0 | 0.19 | ug/L | 01.27.14 11.30 | | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 11.30 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 103 | % | 53-159 | 01.27.14 11.30 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 01.27.14 11.30 | |
| Toluene-D8 | 2037-26-5 | 98 | % | 70-130 | 01.27.14 11.30 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-29** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-013 Date Collected: 01.19.14 11.56

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MWE Date Prep: 01.27.14 21.29

Seq Number: 933016

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Acetone** | 67-64-1 | **620** | 20 | 3.5 | ug/L | 01.28.14 03.51 | | 10 |
| **Benzene** | 71-43-2 | **23** | 10 | 1.6 | ug/L | 01.28.14 03.51 | | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 03.51 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 01.28.14 03.51 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 03.51 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 01.28.14 03.51 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 01.28.14 03.51 | U | 10 |
| **Chlorobenzene** | 108-90-7 | **220** | 10 | 1.5 | ug/L | 01.28.14 03.51 | | 10 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 01.28.14 03.51 | U | 10 |
| 2-Butanone (MEK) | 78-93-3 | <2.8 | 20 | 2.8 | ug/L | 01.28.14 03.51 | U | 10 |
| **Chloroform** | 67-66-3 | **16** | 10 | 1.6 | ug/L | 01.28.14 03.51 | | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 03.51 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 01.28.14 03.51 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 01.28.14 03.51 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 01.28.14 03.51 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 03.51 | U | 10 |
| **1,2-Dichlorobenzene** | 95-50-1 | **58** | 10 | 1.4 | ug/L | 01.28.14 03.51 | | 10 |
| **1,3-Dichlorobenzene** | 541-73-1 | **120** | 10 | 1.7 | ug/L | 01.28.14 03.51 | | 10 |
| **1,4-Dichlorobenzene** | 106-46-7 | **330** | 10 | 1.7 | ug/L | 01.28.14 03.51 | | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 01.28.14 03.51 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 03.51 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 03.51 | U | 10 |
| **1,1-Dichloroethene** | 75-35-4 | **17** | 10 | 2.0 | ug/L | 01.28.14 03.51 | | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **5900** | 100 | 21 | ug/L | 01.28.14 05.19 | D | 100 |
| **trans-1,2-Dichloroethene** | 156-60-5 | **10** | 10 | 2.1 | ug/L | 01.28.14 03.51 | J | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 01.28.14 03.51 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 01.28.14 03.51 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 03.51 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **3100** | 100 | 19 | ug/L | 01.28.14 05.19 | D | 100 |
| 2-Hexanone | 591-78-6 | <3.2 | 20 | 3.2 | ug/L | 01.28.14 03.51 | U | 10 |
| **Isopropylbenzene** | 98-82-8 | **120** | 10 | 1.5 | ug/L | 01.28.14 03.51 | | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 01.28.14 03.51 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 03.51 | U | 10 |
| Methylene chloride | 75-09-2 | <4.2 | 10 | 4.2 | ug/L | 01.28.14 03.51 | U | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 01.28.14 03.51 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 01.28.14 03.51 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 03.51 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 03.51 | U | 10 |
| **Tetrachloroethene** | 127-18-4 | **330** | 10 | 1.6 | ug/L | 01.28.14 03.51 | | 10 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-29** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-013 Date Collected: 01.19.14 11.56

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MWE Date Prep: 01.27.14 21.29

Seq Number: 933016

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| **Toluene** | 108-88-3 | **20** | 10 | 1.4 | ug/L | 01.28.14 03.51 | | 10 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **370** | 10 | 1.7 | ug/L | 01.28.14 03.51 | | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 01.28.14 03.51 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 03.51 | U | 10 |
| **Trichloroethene** | 79-01-6 | **110** | 10 | 1.9 | ug/L | 01.28.14 03.51 | | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 01.28.14 03.51 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 03.51 | U | 10 |
| **Vinyl chloride** | 75-01-4 | **790** | 10 | 1.9 | ug/L | 01.28.14 03.51 | | 10 |
| **Xylenes, Total** | 1330-20-7 | **6600** | 10 | 2.0 | ug/L | 01.28.14 05.19 | | 100 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 105 | % | 53-159 | 01.28.14 03.51 | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 30-186 | 01.28.14 03.51 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 01.28.14 03.51 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-30** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-014 Date Collected: 01.19.14 16.06

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.27.14 06.37

Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.27.14 11.57 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.57 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.57 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.57 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.57 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 11.57 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.27.14 11.57 | U | 1 |
| **Chlorobenzene** | 108-90-7 | **1.9** | 1.0 | 0.15 | ug/L | 01.27.14 11.57 | | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 11.57 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.27.14 11.57 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.57 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.57 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.57 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.57 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 11.57 | U | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **5.6** | 1.0 | 0.21 | ug/L | 01.27.14 11.57 | | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.57 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.27.14 11.57 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.57 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 11.57 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.27.14 11.57 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 11.57 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 11.57 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.57 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.27.14 11.57 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 11.57 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.27.14 11.57 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 11.57 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.57 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-30**
Lab Sample Id: 477891-014

Matrix: Water
Date Collected: 01.19.14 16.06

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932992

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 06.37

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 11.57 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 11.57 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.27.14 11.57 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 11.57 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 11.57 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 11.57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 103 | % | 53-159 | 01.27.14 11.57 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 30-186 | 01.27.14 11.57 | |
| Toluene-D8 | 2037-26-5 | 97 | % | 70-130 | 01.27.14 11.57 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-31** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-015 Date Collected: 01.20.14 14.52

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.27.14 06.37

Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.27.14 12.25 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 12.25 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 12.25 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 12.25 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 12.25 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 12.25 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.27.14 12.25 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 12.25 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 12.25 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.27.14 12.25 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 12.25 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 12.25 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 12.25 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 12.25 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 12.25 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 12.25 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 12.25 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.27.14 12.25 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 12.25 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 12.25 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.27.14 12.25 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 12.25 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 12.25 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 12.25 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.27.14 12.25 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 12.25 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.27.14 12.25 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 12.25 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 12.25 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-31**
Lab Sample Id: 477891-015

Matrix: Water
Date Collected: 01.20.14 14.52

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932992

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 06.37

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 12.25 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 12.25 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.27.14 12.25 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 12.25 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 12.25 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 12.25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 104 | % | 53-159 | 01.27.14 12.25 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 30-186 | 01.27.14 12.25 | |
| Toluene-D8 | 2037-26-5 | 97 | % | 70-130 | 01.27.14 12.25 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-32** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-016 Date Collected: 01.21.14 10.43

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MWE Date Prep: 01.27.14 21.29

Seq Number: 933016

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <3.5 | 20 | 3.5 | ug/L | 01.28.14 03.21 | U | 10 |
| Benzene | 71-43-2 | <1.6 | 10 | 1.6 | ug/L | 01.28.14 03.21 | U | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 03.21 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 01.28.14 03.21 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 03.21 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 01.28.14 03.21 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 01.28.14 03.21 | U | 10 |
| **Chlorobenzene** | 108-90-7 | **55** | 10 | 1.5 | ug/L | 01.28.14 03.21 | | 10 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 01.28.14 03.21 | U | 10 |
| 2-Butanone (MEK) | 78-93-3 | <2.8 | 20 | 2.8 | ug/L | 01.28.14 03.21 | U | 10 |
| Chloroform | 67-66-3 | <1.6 | 10 | 1.6 | ug/L | 01.28.14 03.21 | U | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 03.21 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 01.28.14 03.21 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 01.28.14 03.21 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 01.28.14 03.21 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 03.21 | U | 10 |
| **1,2-Dichlorobenzene** | 95-50-1 | **8.3** | 10 | 1.4 | ug/L | 01.28.14 03.21 | J | 10 |
| **1,3-Dichlorobenzene** | 541-73-1 | **43** | 10 | 1.7 | ug/L | 01.28.14 03.21 | | 10 |
| 1,4-Dichlorobenzene | 106-46-7 | <1.7 | 10 | 1.7 | ug/L | 01.28.14 03.21 | U | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 01.28.14 03.21 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 03.21 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 03.21 | U | 10 |
| 1,1-Dichloroethene | 75-35-4 | <2.0 | 10 | 2.0 | ug/L | 01.28.14 03.21 | U | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **1600** | 10 | 2.1 | ug/L | 01.28.14 03.21 | | 10 |
| trans-1,2-Dichloroethene | 156-60-5 | <2.1 | 10 | 2.1 | ug/L | 01.28.14 03.21 | U | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 01.28.14 03.21 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 01.28.14 03.21 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 03.21 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **180** | 10 | 1.9 | ug/L | 01.28.14 03.21 | | 10 |
| 2-Hexanone | 591-78-6 | <3.2 | 20 | 3.2 | ug/L | 01.28.14 03.21 | U | 10 |
| **Isopropylbenzene** | 98-82-8 | **11** | 10 | 1.5 | ug/L | 01.28.14 03.21 | | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 01.28.14 03.21 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 03.21 | U | 10 |
| Methylene chloride | 75-09-2 | <4.2 | 10 | 4.2 | ug/L | 01.28.14 03.21 | U | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 01.28.14 03.21 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 01.28.14 03.21 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 03.21 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 01.28.14 03.21 | U | 10 |
| **Tetrachloroethene** | 127-18-4 | **6500** | 100 | 16 | ug/L | 01.28.14 04.50 | D | 100 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-32**
Lab Sample Id: 477891-016

Matrix: Water
Date Collected: 01.21.14 10.43

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MWE
Seq Number: 933016

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 21.29

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <1.4 | 10 | 1.4 | ug/L | 01.28.14 03.21 | U | 10 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **370** | 10 | 1.7 | ug/L | 01.28.14 03.21 | | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 01.28.14 03.21 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 01.28.14 03.21 | U | 10 |
| **Trichloroethene** | 79-01-6 | **1300** | 10 | 1.9 | ug/L | 01.28.14 03.21 | | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 01.28.14 03.21 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 01.28.14 03.21 | U | 10 |
| **Vinyl chloride** | 75-01-4 | **230** | 10 | 1.9 | ug/L | 01.28.14 03.21 | | 10 |
| **Xylenes, Total** | 1330-20-7 | **170** | 10 | 2.0 | ug/L | 01.28.14 03.21 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 103 | % | 53-159 | 01.28.14 03.21 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 01.28.14 03.21 | |
| Toluene-D8 | 2037-26-5 | 98 | % | 70-130 | 01.28.14 03.21 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-33** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-017 Date Collected: 01.19.14 15.33

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.27.14 06.37

Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <3.5 | 20 | 3.5 | ug/L | 01.27.14 17.11 | U | 10 |
| Benzene | 71-43-2 | <1.6 | 10 | 1.6 | ug/L | 01.27.14 17.11 | U | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 01.27.14 17.11 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 01.27.14 17.11 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 01.27.14 17.11 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 01.27.14 17.11 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 01.27.14 17.11 | U | 10 |
| **Chlorobenzene** | 108-90-7 | **74** | 10 | 1.5 | ug/L | 01.27.14 17.11 | | 10 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 01.27.14 17.11 | U | 10 |
| 2-Butanone (MEK) | 78-93-3 | <2.8 | 20 | 2.8 | ug/L | 01.27.14 17.11 | U | 10 |
| Chloroform | 67-66-3 | <1.6 | 10 | 1.6 | ug/L | 01.27.14 17.11 | U | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 01.27.14 17.11 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 01.27.14 17.11 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 01.27.14 17.11 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 01.27.14 17.11 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 01.27.14 17.11 | U | 10 |
| **1,2-Dichlorobenzene** | 95-50-1 | **14** | 10 | 1.4 | ug/L | 01.27.14 17.11 | | 10 |
| **1,3-Dichlorobenzene** | 541-73-1 | **46** | 10 | 1.7 | ug/L | 01.27.14 17.11 | | 10 |
| **1,4-Dichlorobenzene** | 106-46-7 | **180** | 10 | 1.7 | ug/L | 01.27.14 17.11 | | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 01.27.14 17.11 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 01.27.14 17.11 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 01.27.14 17.11 | U | 10 |
| 1,1-Dichloroethene | 75-35-4 | <2.0 | 10 | 2.0 | ug/L | 01.27.14 17.11 | U | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **340** | 10 | 2.1 | ug/L | 01.27.14 17.11 | | 10 |
| trans-1,2-Dichloroethene | 156-60-5 | <2.1 | 10 | 2.1 | ug/L | 01.27.14 17.11 | U | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 01.27.14 17.11 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 01.27.14 17.11 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 01.27.14 17.11 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **16** | 10 | 1.9 | ug/L | 01.27.14 17.11 | | 10 |
| 2-Hexanone | 591-78-6 | <3.2 | 20 | 3.2 | ug/L | 01.27.14 17.11 | U | 10 |
| Isopropylbenzene | 98-82-8 | <1.5 | 10 | 1.5 | ug/L | 01.27.14 17.11 | U | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 01.27.14 17.11 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 01.27.14 17.11 | U | 10 |
| Methylene chloride | 75-09-2 | <4.2 | 10 | 4.2 | ug/L | 01.27.14 17.11 | U | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 01.27.14 17.11 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 01.27.14 17.11 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 01.27.14 17.11 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 01.27.14 17.11 | U | 10 |
| Tetrachloroethene | 127-18-4 | <1.6 | 10 | 1.6 | ug/L | 01.27.14 17.11 | U | 10 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-33**
Lab Sample Id: 477891-017

Matrix: Water
Date Collected: 01.19.14 15.33

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932992

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 06.37

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <1.4 | 10 | 1.4 | ug/L | 01.27.14 17.11 | U | 10 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **79** | 10 | 1.7 | ug/L | 01.27.14 17.11 | | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 01.27.14 17.11 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 01.27.14 17.11 | U | 10 |
| Trichloroethene | 79-01-6 | <1.9 | 10 | 1.9 | ug/L | 01.27.14 17.11 | U | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 01.27.14 17.11 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 01.27.14 17.11 | U | 10 |
| **Vinyl chloride** | 75-01-4 | **300** | 10 | 1.9 | ug/L | 01.27.14 17.11 | | 10 |
| **Xylenes, Total** | 1330-20-7 | **40** | 10 | 2.0 | ug/L | 01.27.14 17.11 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 104 | % | 53-159 | 01.27.14 17.11 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 01.27.14 17.11 | |
| Toluene-D8 | 2037-26-5 | 98 | % | 70-130 | 01.27.14 17.11 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-34** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-018 Date Collected: 01.20.14 16.26

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MWE Date Prep: 01.27.14 21.29

Seq Number: 933016

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.28.14 00.33 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 00.33 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 00.33 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.28.14 00.33 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 00.33 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.28.14 00.33 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.28.14 00.33 | U | 1 |
| **Chlorobenzene** | 108-90-7 | **2.8** | 1.0 | 0.15 | ug/L | 01.28.14 00.33 | | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.28.14 00.33 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.28.14 00.33 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 00.33 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 00.33 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 00.33 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.28.14 00.33 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.28.14 00.33 | U | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **14** | 1.0 | 0.21 | ug/L | 01.28.14 00.33 | | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 00.33 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.28.14 00.33 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 00.33 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 00.33 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.28.14 00.33 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 00.33 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.28.14 00.33 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 00.33 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.28.14 00.33 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.28.14 00.33 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.28.14 00.33 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 00.33 | U | 1 |
| **Tetrachloroethene** | 127-18-4 | **2.4** | 1.0 | 0.16 | ug/L | 01.28.14 00.33 | | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-34**
Lab Sample Id: 477891-018

Matrix: Water
Date Collected: 01.20.14 16.26

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MWE
Seq Number: 933016

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 21.29

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.28.14 00.33 | U | 1 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **1.8** | 1.0 | 0.17 | ug/L | 01.28.14 00.33 | | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 00.33 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 00.33 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.28.14 00.33 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 00.33 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 00.33 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.28.14 00.33 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 104 | % | 53-159 | 01.28.14 00.33 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 01.28.14 00.33 | |
| Toluene-D8 | 2037-26-5 | 98 | % | 70-130 | 01.28.14 00.33 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-35** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-019 Date Collected: 01.21.14 09.03

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.27.14 06.37

Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.27.14 13.19 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 13.19 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 13.19 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 13.19 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 13.19 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 13.19 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.27.14 13.19 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 13.19 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 13.19 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.27.14 13.19 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 13.19 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 13.19 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 13.19 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 13.19 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 13.19 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 13.19 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 13.19 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.27.14 13.19 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 13.19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 13.19 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.27.14 13.19 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 13.19 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 13.19 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 13.19 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.27.14 13.19 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 13.19 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.27.14 13.19 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 13.19 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 13.19 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-35**
Lab Sample Id: 477891-019

Matrix: Water
Date Collected: 01.21.14 09.03

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932992

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 06.37

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 13.19 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 13.19 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.27.14 13.19 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 13.19 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 13.19 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 13.19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 106 | % | 53-159 | 01.27.14 13.19 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 30-186 | 01.27.14 13.19 | |
| Toluene-D8 | 2037-26-5 | 99 | % | 70-130 | 01.27.14 13.19 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-36** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-020 Date Collected: 01.21.14 11.15

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.27.14 06.37

Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.27.14 13.47 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 13.47 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 13.47 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 13.47 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 13.47 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 13.47 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.27.14 13.47 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 13.47 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.27.14 13.47 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.27.14 13.47 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 13.47 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 13.47 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 13.47 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 13.47 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 13.47 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 13.47 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 13.47 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.27.14 13.47 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 13.47 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 13.47 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.27.14 13.47 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.27.14 13.47 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 13.47 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 13.47 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.27.14 13.47 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.27.14 13.47 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.27.14 13.47 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.27.14 13.47 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 13.47 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-36**
Lab Sample Id: 477891-020

Matrix: Water
Date Collected: 01.21.14 11.15

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932992

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 06.37

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.27.14 13.47 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 13.47 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.27.14 13.47 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.27.14 13.47 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.27.14 13.47 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.27.14 13.47 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 104 | % | 53-159 | 01.27.14 13.47 | |
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 30-186 | 01.27.14 13.47 | |
| Toluene-D8 | 2037-26-5 | 98 | % | 70-130 | 01.27.14 13.47 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-37** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-021 Date Collected: 01.20.14 17.11

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MWE Date Prep: 01.27.14 21.29

Seq Number: 933016

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.28.14 01.00 | U | 1 |
| **Benzene** | 71-43-2 | **14** | 1.0 | 0.16 | ug/L | 01.28.14 01.00 | | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 01.00 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.28.14 01.00 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 01.00 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.28.14 01.00 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.28.14 01.00 | U | 1 |
| **Chlorobenzene** | 108-90-7 | **110** | 1.0 | 0.15 | ug/L | 01.28.14 01.00 | | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.28.14 01.00 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.28.14 01.00 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 01.00 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 01.00 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 01.00 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 01.00 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 01.00 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 01.00 | U | 1 |
| **1,2-Dichlorobenzene** | 95-50-1 | **16** | 1.0 | 0.14 | ug/L | 01.28.14 01.00 | | 1 |
| **1,3-Dichlorobenzene** | 541-73-1 | **9.7** | 1.0 | 0.17 | ug/L | 01.28.14 01.00 | | 1 |
| **1,4-Dichlorobenzene** | 106-46-7 | **63** | 1.0 | 0.17 | ug/L | 01.28.14 01.00 | | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.28.14 01.00 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 01.00 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 01.00 | U | 1 |
| **1,1-Dichloroethene** | 75-35-4 | **1.6** | 1.0 | 0.20 | ug/L | 01.28.14 01.00 | | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **860** | 10 | 2.1 | ug/L | 01.31.14 17.08 | D | 10 |
| **trans-1,2-Dichloroethene** | 156-60-5 | **1.5** | 1.0 | 0.21 | ug/L | 01.28.14 01.00 | | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 01.00 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.28.14 01.00 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 01.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 01.00 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.28.14 01.00 | U | 1 |
| **Isopropylbenzene** | 98-82-8 | **1.4** | 1.0 | 0.15 | ug/L | 01.28.14 01.00 | | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.28.14 01.00 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 01.00 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.28.14 01.00 | U | 1 |
| **4-Methyl-2-pentanone (MIBK)** | 108-10-1 | **0.91** | 2.0 | 0.26 | ug/L | 01.28.14 01.00 | J | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.28.14 01.00 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 01.00 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 01.00 | U | 1 |
| **Tetrachloroethene** | 127-18-4 | **30** | 1.0 | 0.16 | ug/L | 01.28.14 01.00 | | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **MW-37**
Lab Sample Id: 477891-021

Matrix: Water
Date Collected: 01.20.14 17.11

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MWE
Seq Number: 933016

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 21.29

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.28.14 01.00 | U | 1 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **110** | 1.0 | 0.17 | ug/L | 01.28.14 01.00 | | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 01.00 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 01.00 | U | 1 |
| **Trichloroethene** | 79-01-6 | **16** | 1.0 | 0.19 | ug/L | 01.28.14 01.00 | | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.28.14 01.00 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 01.00 | U | 1 |
| **Vinyl chloride** | 75-01-4 | **130** | 1.0 | 0.19 | ug/L | 01.28.14 01.00 | | 1 |
| **Xylenes, Total** | 1330-20-7 | **1.9** | 1.0 | 0.20 | ug/L | 01.28.14 01.00 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 104 | % | 53-159 | 01.28.14 01.00 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 01.28.14 01.00 | |
| Toluene-D8 | 2037-26-5 | 95 | % | 70-130 | 01.28.14 01.00 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **PAN-MW-9** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-022 Date Collected: 01.19.14 11.04

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.27.14 06.37

Seq Number: 932992

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <3.5 | 20 | 3.5 | ug/L | 01.27.14 16.41 | U | 10 |
| Benzene | 71-43-2 | <1.6 | 10 | 1.6 | ug/L | 01.27.14 16.41 | U | 10 |
| Bromodichloromethane | 75-27-4 | <2.5 | 10 | 2.5 | ug/L | 01.27.14 16.41 | U | 10 |
| Bromoform | 75-25-2 | <1.7 | 10 | 1.7 | ug/L | 01.27.14 16.41 | U | 10 |
| Bromomethane | 74-83-9 | <2.5 | 10 | 2.5 | ug/L | 01.27.14 16.41 | U | 10 |
| Carbon disulfide | 75-15-0 | <2.6 | 10 | 2.6 | ug/L | 01.27.14 16.41 | U | 10 |
| Carbon tetrachloride | 56-23-5 | <3.3 | 10 | 3.3 | ug/L | 01.27.14 16.41 | U | 10 |
| Chlorobenzene | 108-90-7 | <1.5 | 10 | 1.5 | ug/L | 01.27.14 16.41 | U | 10 |
| Chloroethane | 75-00-3 | <2.6 | 10 | 2.6 | ug/L | 01.27.14 16.41 | U | 10 |
| 2-Butanone (MEK) | 78-93-3 | <2.8 | 20 | 2.8 | ug/L | 01.27.14 16.41 | U | 10 |
| Chloroform | 67-66-3 | <1.6 | 10 | 1.6 | ug/L | 01.27.14 16.41 | U | 10 |
| Chloromethane | 74-87-3 | <2.5 | 10 | 2.5 | ug/L | 01.27.14 16.41 | U | 10 |
| Cyclohexane | 110-82-7 | <1.5 | 10 | 1.5 | ug/L | 01.27.14 16.41 | U | 10 |
| Dibromochloromethane | 124-48-1 | <1.5 | 10 | 1.5 | ug/L | 01.27.14 16.41 | U | 10 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <1.9 | 10 | 1.9 | ug/L | 01.27.14 16.41 | U | 10 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.8 | 10 | 1.8 | ug/L | 01.27.14 16.41 | U | 10 |
| 1,2-Dichlorobenzene | 95-50-1 | <1.4 | 10 | 1.4 | ug/L | 01.27.14 16.41 | U | 10 |
| **1,3-Dichlorobenzene** | 541-73-1 | **8.9** | 10 | 1.7 | ug/L | 01.27.14 16.41 | J | 10 |
| **1,4-Dichlorobenzene** | 106-46-7 | **19** | 10 | 1.7 | ug/L | 01.27.14 16.41 | | 10 |
| Dichlorodifluoromethane | 75-71-8 | <2.2 | 10 | 2.2 | ug/L | 01.27.14 16.41 | U | 10 |
| 1,1-Dichloroethane | 75-34-3 | <1.1 | 10 | 1.1 | ug/L | 01.27.14 16.41 | U | 10 |
| 1,2-Dichloroethane | 107-06-2 | <1.8 | 10 | 1.8 | ug/L | 01.27.14 16.41 | U | 10 |
| 1,1-Dichloroethene | 75-35-4 | <2.0 | 10 | 2.0 | ug/L | 01.27.14 16.41 | U | 10 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **2100** | 50.0 | 11.0 | ug/L | 01.28.14 13.19 | D | 50 |
| trans-1,2-Dichloroethene | 156-60-5 | <2.1 | 10 | 2.1 | ug/L | 01.27.14 16.41 | U | 10 |
| 1,2-Dichloropropane | 78-87-5 | <1.5 | 10 | 1.5 | ug/L | 01.27.14 16.41 | U | 10 |
| cis-1,3-Dichloropropene | 10061-01-5 | <1.0 | 10 | 1.0 | ug/L | 01.27.14 16.41 | U | 10 |
| trans-1,3-Dichloropropene | 10061-02-6 | <1.1 | 10 | 1.1 | ug/L | 01.27.14 16.41 | U | 10 |
| **Ethylbenzene** | 100-41-4 | **1100** | 10 | 1.9 | ug/L | 01.27.14 16.41 | | 10 |
| 2-Hexanone | 591-78-6 | <3.2 | 20 | 3.2 | ug/L | 01.27.14 16.41 | U | 10 |
| **Isopropylbenzene** | 98-82-8 | **54** | 10 | 1.5 | ug/L | 01.27.14 16.41 | | 10 |
| Methyl acetate | 79-20-9 | <2.6 | 20 | 2.6 | ug/L | 01.27.14 16.41 | U | 10 |
| Methylcyclohexane | 108-87-2 | <1.1 | 10 | 1.1 | ug/L | 01.27.14 16.41 | U | 10 |
| Methylene chloride | 75-09-2 | <4.2 | 10 | 4.2 | ug/L | 01.27.14 16.41 | U | 10 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <2.6 | 20 | 2.6 | ug/L | 01.27.14 16.41 | U | 10 |
| Methyl tert-butyl ether | 1634-04-4 | <1.8 | 20 | 1.8 | ug/L | 01.27.14 16.41 | U | 10 |
| Styrene | 100-42-5 | <1.8 | 10 | 1.8 | ug/L | 01.27.14 16.41 | U | 10 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <1.8 | 10 | 1.8 | ug/L | 01.27.14 16.41 | U | 10 |
| **Tetrachloroethene** | 127-18-4 | **17** | 10 | 1.6 | ug/L | 01.27.14 16.41 | | 10 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **PAN-MW-9**
Lab Sample Id: 477891-022

Matrix: Water
Date Collected: 01.19.14 11.04

Date Received:01.22.14 11.26

Analytical Method: VOCs by SW-846 8260B
Tech: MWE
Analyst: MLA
Seq Number: 932992

Prep Method: SW5030B
% Moisture:

Date Prep: 01.27.14 06.37

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <1.4 | 10 | 1.4 | ug/L | 01.27.14 16.41 | U | 10 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **11** | 10 | 1.7 | ug/L | 01.27.14 16.41 | | 10 |
| 1,1,1-Trichloroethane | 71-55-6 | <1.6 | 10 | 1.6 | ug/L | 01.27.14 16.41 | U | 10 |
| 1,1,2-Trichloroethane | 79-00-5 | <2.5 | 10 | 2.5 | ug/L | 01.27.14 16.41 | U | 10 |
| **Trichloroethene** | 79-01-6 | **300** | 10 | 1.9 | ug/L | 01.27.14 16.41 | | 10 |
| Trichlorofluoromethane | 75-69-4 | <5.3 | 10 | 5.3 | ug/L | 01.27.14 16.41 | U | 10 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <1.1 | 10 | 1.1 | ug/L | 01.27.14 16.41 | U | 10 |
| **Vinyl chloride** | 75-01-4 | **190** | 10 | 1.9 | ug/L | 01.27.14 16.41 | | 10 |
| **Xylenes, Total** | 1330-20-7 | **2700** | 10 | 2.0 | ug/L | 01.27.14 16.41 | | 10 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 104 | % | 53-159 | 01.27.14 16.41 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 01.27.14 16.41 | |
| Toluene-D8 | 2037-26-5 | 100 | % | 70-130 | 01.27.14 16.41 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **PAN-MW-10** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-023 Date Collected: 01.19.14 14.56

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MWE Date Prep: 01.27.14 21.29

Seq Number: 933016

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.28.14 01.27 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 01.27 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 01.27 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.28.14 01.27 | UX | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 01.27 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.28.14 01.27 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.28.14 01.27 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 01.27 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.28.14 01.27 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.28.14 01.27 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 01.27 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 01.27 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 01.27 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.28.14 01.27 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.28.14 01.27 | U | 1 |
| **cis-1,2-Dichloroethene** | 156-59-2 | **1.3** | 1.0 | 0.21 | ug/L | 01.28.14 01.27 | | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 01.27 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.28.14 01.27 | UX | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 01.27 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 01.27 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.28.14 01.27 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.28.14 01.27 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.28.14 01.27 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 01.27 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.28.14 01.27 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.28.14 01.27 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.28.14 01.27 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.28.14 01.27 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 01.27 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **PAN-MW-10**
Matrix: Water
Date Received:01.22.14 11.26
Lab Sample Id: 477891-023
Date Collected: 01.19.14 14.56

Analytical Method: VOCs by SW-846 8260B
Prep Method: SW5030B
Tech: MWE
% Moisture:
Analyst: MWE
Date Prep: 01.27.14 21.29
Seq Number: 933016

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.28.14 01.27 | U | 1 |
| **1,2,4-Trichlorobenzene** | 120-82-1 | **2.7** | 1.0 | 0.17 | ug/L | 01.28.14 01.27 | | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.28.14 01.27 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 01.27 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.28.14 01.27 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.28.14 01.27 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.28.14 01.27 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.28.14 01.27 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 104 | % | 53-159 | 01.28.14 01.27 | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 30-186 | 01.28.14 01.27 | |
| Toluene-D8 | 2037-26-5 | 97 | % | 70-130 | 01.28.14 01.27 | |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **TRIP BLANK** Matrix: Water Date Received:01.22.14 11.26

Lab Sample Id: 477891-024 Date Collected: 01.19.14 00.00

Analytical Method: VOCs by SW-846 8260B Prep Method: SW5030B

Tech: MWE % Moisture:

Analyst: MLA Date Prep: 01.25.14 09.21

Seq Number: 932827

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | <0.35 | 2.0 | 0.35 | ug/L | 01.25.14 12.11 | U | 1 |
| Benzene | 71-43-2 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 12.11 | U | 1 |
| Bromodichloromethane | 75-27-4 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 12.11 | U | 1 |
| Bromoform | 75-25-2 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 12.11 | U | 1 |
| Bromomethane | 74-83-9 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 12.11 | U | 1 |
| Carbon disulfide | 75-15-0 | <0.26 | 1.0 | 0.26 | ug/L | 01.25.14 12.11 | U | 1 |
| Carbon tetrachloride | 56-23-5 | <0.33 | 1.0 | 0.33 | ug/L | 01.25.14 12.11 | U | 1 |
| Chlorobenzene | 108-90-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 12.11 | U | 1 |
| Chloroethane | 75-00-3 | <0.26 | 1.0 | 0.26 | ug/L | 01.25.14 12.11 | U | 1 |
| 2-Butanone (MEK) | 78-93-3 | <0.28 | 2.0 | 0.28 | ug/L | 01.25.14 12.11 | U | 1 |
| Chloroform | 67-66-3 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 12.11 | U | 1 |
| Chloromethane | 74-87-3 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 12.11 | U | 1 |
| Cyclohexane | 110-82-7 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 12.11 | U | 1 |
| Dibromochloromethane | 124-48-1 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,2-Dichlorobenzene | 95-50-1 | <0.14 | 1.0 | 0.14 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,3-Dichlorobenzene | 541-73-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,4-Dichlorobenzene | 106-46-7 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 12.11 | U | 1 |
| Dichlorodifluoromethane | 75-71-8 | <0.22 | 1.0 | 0.22 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,1-Dichloroethane | 75-34-3 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,2-Dichloroethane | 107-06-2 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,1-Dichloroethene | 75-35-4 | <0.20 | 1.0 | 0.20 | ug/L | 01.25.14 12.11 | U | 1 |
| cis-1,2-Dichloroethene | 156-59-2 | <0.21 | 1.0 | 0.21 | ug/L | 01.25.14 12.11 | U | 1 |
| trans-1,2-Dichloroethene | 156-60-5 | <0.21 | 1.0 | 0.21 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,2-Dichloropropane | 78-87-5 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 12.11 | U | 1 |
| cis-1,3-Dichloropropene | 10061-01-5 | <0.10 | 1.0 | 0.10 | ug/L | 01.25.14 12.11 | U | 1 |
| trans-1,3-Dichloropropene | 10061-02-6 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 12.11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 12.11 | U | 1 |
| 2-Hexanone | 591-78-6 | <0.32 | 2.0 | 0.32 | ug/L | 01.25.14 12.11 | U | 1 |
| Isopropylbenzene | 98-82-8 | <0.15 | 1.0 | 0.15 | ug/L | 01.25.14 12.11 | U | 1 |
| Methyl acetate | 79-20-9 | <0.26 | 2.0 | 0.26 | ug/L | 01.25.14 12.11 | U | 1 |
| Methylcyclohexane | 108-87-2 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 12.11 | U | 1 |
| Methylene chloride | 75-09-2 | <0.42 | 1.0 | 0.42 | ug/L | 01.25.14 12.11 | U | 1 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | <0.26 | 2.0 | 0.26 | ug/L | 01.25.14 12.11 | U | 1 |
| Methyl tert-butyl ether | 1634-04-4 | <0.18 | 2.0 | 0.18 | ug/L | 01.25.14 12.11 | U | 1 |
| Styrene | 100-42-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | <0.18 | 1.0 | 0.18 | ug/L | 01.25.14 12.11 | U | 1 |
| Tetrachloroethene | 127-18-4 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 12.11 | U | 1 |

# Certificate of Analytical Results 477891

## Environmental International Corporation, Alpharetta, GA

VOPAK-Savannah

Sample Id: **TRIP BLANK**
Matrix: Water
Date Received:01.22.14 11.26
Lab Sample Id: 477891-024
Date Collected: 01.19.14 00.00

Analytical Method: VOCs by SW-846 8260B
Prep Method: SW5030B
Tech: MWE
% Moisture:
Analyst: MLA
Date Prep: 01.25.14 09.21
Seq Number: 932827

| Parameter | Cas Number | Result | RL | MDL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | <0.14 | 1.0 | 0.14 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | <0.17 | 1.0 | 0.17 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,1,1-Trichloroethane | 71-55-6 | <0.16 | 1.0 | 0.16 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,1,2-Trichloroethane | 79-00-5 | <0.25 | 1.0 | 0.25 | ug/L | 01.25.14 12.11 | U | 1 |
| Trichloroethene | 79-01-6 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 12.11 | U | 1 |
| Trichlorofluoromethane | 75-69-4 | <0.53 | 1.0 | 0.53 | ug/L | 01.25.14 12.11 | U | 1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | <0.11 | 1.0 | 0.11 | ug/L | 01.25.14 12.11 | U | 1 |
| Vinyl chloride | 75-01-4 | <0.19 | 1.0 | 0.19 | ug/L | 01.25.14 12.11 | U | 1 |
| Xylenes, Total | 1330-20-7 | <0.20 | 1.0 | 0.20 | ug/L | 01.25.14 12.11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 17060-07-0 | 108 | % | 53-159 | 01.25.14 12.11 | |
| 4-Bromofluorobenzene | 460-00-4 | 102 | % | 30-186 | 01.25.14 12.11 | |
| Toluene-D8 | 2037-26-5 | 101 | % | 70-130 | 01.25.14 12.11 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantitation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

**PQL** Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B

Seq Number: 932827 Matrix: Water Date Prep: 01.25.14

MB Sample Id: 650262-1-BLK LCS Sample Id: 650262-1-BKS LCSD Sample Id: 650262-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <0.35 | 100 | 96 | 96 | 88 | 88 | 40-140 | 9 | 20 | ug/L | 01.25.14 10:07 | |
| Benzene | <0.16 | 50 | 52 | 104 | 52 | 104 | 80-120 | 0 | 20 | ug/L | 01.25.14 10:07 | |
| Bromodichloromethane | <0.25 | 50 | 51 | 102 | 50 | 100 | 75-120 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| Bromoform | <0.17 | 50 | 46 | 92 | 46 | 92 | 70-130 | 0 | 20 | ug/L | 01.25.14 10:07 | |
| Bromomethane | <0.25 | 50 | 52 | 104 | 50 | 100 | 30-145 | 4 | 20 | ug/L | 01.25.14 10:07 | |
| Carbon disulfide | <0.26 | 50 | 54 | 108 | 51 | 102 | 35-160 | 6 | 20 | ug/L | 01.25.14 10:07 | |
| Carbon tetrachloride | <0.33 | 50 | 53 | 106 | 50 | 100 | 65-140 | 6 | 20 | ug/L | 01.25.14 10:07 | |
| Chlorobenzene | <0.15 | 50 | 50 | 100 | 50 | 100 | 80-120 | 0 | 20 | ug/L | 01.25.14 10:07 | |
| Chloroethane | <0.26 | 50 | 60 | 120 | 56 | 112 | 60-135 | 7 | 20 | ug/L | 01.25.14 10:07 | |
| 2-Butanone (MEK) | <0.28 | 100 | 88 | 88 | 83 | 83 | 30-150 | 6 | 20 | ug/L | 01.25.14 10:07 | |
| Chloroform | <0.16 | 50 | 48 | 96 | 46 | 92 | 65-135 | 4 | 20 | ug/L | 01.25.14 10:07 | |
| Chloromethane | <0.25 | 50 | 55 | 110 | 52 | 104 | 40-125 | 6 | 20 | ug/L | 01.25.14 10:07 | |
| Cyclohexane | <0.15 | 50 | 52 | 104 | 55 | 110 | 65-135 | 6 | 20 | ug/L | 01.25.14 10:07 | |
| Dibromochloromethane | <0.15 | 50 | 51 | 102 | 50 | 100 | 60-135 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| 1,2-Dibromo-3-chloropropane (DBCP) | <0.19 | 50 | 44 | 88 | 48 | 96 | 50-130 | 9 | 20 | ug/L | 01.25.14 10:07 | |
| 1,2-Dibromoethane (EDB) | <0.18 | 50 | 52 | 104 | 50 | 100 | 80-120 | 4 | 20 | ug/L | 01.25.14 10:07 | |
| 1,2-Dichlorobenzene | <0.14 | 50 | 56 | 112 | 54 | 108 | 70-120 | 4 | 20 | ug/L | 01.25.14 10:07 | |
| 1,3-Dichlorobenzene | <0.17 | 50 | 56 | 112 | 55 | 110 | 75-125 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| 1,4-Dichlorobenzene | <0.17 | 50 | 52 | 104 | 50 | 100 | 75-125 | 4 | 20 | ug/L | 01.25.14 10:07 | |
| Dichlorodifluoromethane | <0.22 | 50 | 55 | 110 | 51 | 102 | 30-155 | 8 | 20 | ug/L | 01.25.14 10:07 | |
| 1,1-Dichloroethane | <0.11 | 50 | 51 | 102 | 50 | 100 | 70-135 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| 1,2-Dichloroethane | <0.18 | 50 | 49 | 98 | 46 | 92 | 70-130 | 6 | 20 | ug/L | 01.25.14 10:07 | |
| 1,1-Dichloroethene | <0.20 | 50 | 53 | 106 | 52 | 104 | 70-130 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| cis-1,2-Dichloroethene | <0.21 | 50 | 57 | 114 | 56 | 112 | 70-125 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| trans-1,2-Dichloroethene | <0.21 | 50 | 52 | 104 | 50 | 100 | 60-140 | 4 | 20 | ug/L | 01.25.14 10:07 | |
| 1,2-Dichloropropane | <0.15 | 50 | 53 | 106 | 54 | 108 | 75-125 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| cis-1,3-Dichloropropene | <0.10 | 50 | 52 | 104 | 50 | 100 | 70-130 | 4 | 20 | ug/L | 01.25.14 10:07 | |
| trans-1,3-Dichloropropene | <0.11 | 50 | 56 | 112 | 55 | 110 | 55-140 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| Ethylbenzene | <0.19 | 50 | 56 | 112 | 55 | 110 | 75-125 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| 2-Hexanone | <0.32 | 100 | 81 | 81 | 80 | 80 | 55-130 | 1 | 20 | ug/L | 01.25.14 10:07 | |
| Isopropylbenzene | <0.15 | 50 | 50 | 100 | 50 | 100 | 75-125 | 0 | 20 | ug/L | 01.25.14 10:07 | |
| Methyl acetate | <0.26 | 50 | 47 | 94 | 45 | 90 | 65-135 | 4 | 20 | ug/L | 01.25.14 10:07 | |
| Methylcyclohexane | <0.11 | 50 | 53 | 106 | 54 | 108 | 65-135 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| Methylene chloride | <0.42 | 50 | 53 | 106 | 49 | 98 | 55-140 | 8 | 20 | ug/L | 01.25.14 10:07 | |
| 4-Methyl-2-pentanone (MIBK) | <0.26 | 100 | 86 | 86 | 87 | 87 | 60-135 | 1 | 20 | ug/L | 01.25.14 10:07 | |
| Methyl tert-butyl ether | <0.18 | 100 | 98 | 98 | 95 | 95 | 65-125 | 3 | 20 | ug/L | 01.25.14 10:07 | |
| Styrene | <0.18 | 50 | 50 | 100 | 49 | 98 | 65-135 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| 1,1,2,2-Tetrachloroethane | <0.18 | 50 | 48 | 96 | 48 | 96 | 65-130 | 0 | 20 | ug/L | 01.25.14 10:07 | |
| Tetrachloroethene | <0.16 | 50 | 49 | 98 | 48 | 96 | 45-150 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| Toluene | <0.14 | 50 | 52 | 104 | 51 | 102 | 75-120 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| 1,2,4-Trichlorobenzene | <0.17 | 50 | 47 | 94 | 48 | 96 | 65-135 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| 1,1,1-Trichloroethane | <0.16 | 50 | 49 | 98 | 48 | 96 | 65-130 | 2 | 20 | ug/L | 01.25.14 10:07 | |
| 1,1,2-Trichloroethane | <0.25 | 50 | 51 | 102 | 49 | 98 | 75-125 | 4 | 20 | ug/L | 01.25.14 10:07 | |
| Trichloroethene | <0.19 | 50 | 48 | 96 | 52 | 104 | 70-125 | 8 | 20 | ug/L | 01.25.14 10:07 | |
| Trichlorofluoromethane | <0.53 | 50 | 50 | 100 | 48 | 96 | 60-145 | 4 | 20 | ug/L | 01.25.14 10:07 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <0.11 | 50 | 56 | 112 | 52 | 104 | 65-130 | 7 | 20 | ug/L | 01.25.14 10:07 | |
| Vinyl chloride | <0.19 | 50 | 58 | 116 | 53 | 106 | 50-145 | 9 | 20 | ug/L | 01.25.14 10:07 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 109 | | 83 | | 80 | | 53-159 | % | 01.25.14 10:07 |
| 4-Bromofluorobenzene | 106 | | 100 | | 101 | | 30-186 | % | 01.25.14 10:07 |

# QC Summary 477891

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B

Seq Number: 932827 Matrix: Water Date Prep: 01.25.14

MB Sample Id: 650262-1-BLK LCS Sample Id: 650262-1-BKS LCSD Sample Id: 650262-1-BSD

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| Toluene-D8 | 103 | | 99 | | 99 | | 70-130 | % | 01.25.14 10:07 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B

Seq Number: 932992 Matrix: Water Date Prep: 01.27.14

MB Sample Id: 650304-1-BLK LCS Sample Id: 650304-1-BKS LCSD Sample Id: 650304-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <0.35 | 100 | 120 | 120 | 120 | 120 | 40-140 | 0 | 20 | ug/L | 01.27.14 07:52 | |
| Benzene | <0.16 | 50 | 51 | 102 | 53 | 106 | 80-120 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| Bromodichloromethane | <0.25 | 50 | 53 | 106 | 55 | 110 | 75-120 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| Bromoform | <0.17 | 50 | 57 | 114 | 59 | 118 | 70-130 | 3 | 20 | ug/L | 01.27.14 07:52 | |
| Bromomethane | <0.25 | 50 | 47 | 94 | 47 | 94 | 30-145 | 0 | 20 | ug/L | 01.27.14 07:52 | |
| Carbon disulfide | <0.26 | 50 | 41 | 82 | 43 | 86 | 35-160 | 5 | 20 | ug/L | 01.27.14 07:52 | |
| Carbon tetrachloride | <0.33 | 50 | 49 | 98 | 54 | 108 | 65-140 | 10 | 20 | ug/L | 01.27.14 07:52 | |
| Chlorobenzene | <0.15 | 50 | 50 | 100 | 51 | 102 | 80-120 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| Chloroethane | <0.26 | 50 | 47 | 94 | 55 | 110 | 60-135 | 16 | 20 | ug/L | 01.27.14 07:52 | |
| 2-Butanone (MEK) | <0.28 | 100 | 120 | 120 | 130 | 130 | 30-150 | 8 | 20 | ug/L | 01.27.14 07:52 | |
| Chloroform | <0.16 | 50 | 50 | 100 | 52 | 104 | 65-135 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| Chloromethane | <0.25 | 50 | 45 | 90 | 47 | 94 | 40-125 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| Cyclohexane | <0.15 | 50 | 43 | 86 | 46 | 92 | 65-135 | 7 | 20 | ug/L | 01.27.14 07:52 | |
| Dibromochloromethane | <0.15 | 50 | 54 | 108 | 56 | 112 | 60-135 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| 1,2-Dibromo-3-chloropropane (DBCP) | <0.19 | 50 | 56 | 112 | 58 | 116 | 50-130 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| 1,2-Dibromoethane (EDB) | <0.18 | 50 | 54 | 108 | 55 | 110 | 80-120 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| 1,2-Dichlorobenzene | <0.14 | 50 | 52 | 104 | 53 | 106 | 70-120 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| 1,3-Dichlorobenzene | <0.17 | 50 | 51 | 102 | 52 | 104 | 75-125 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| 1,4-Dichlorobenzene | <0.17 | 50 | 51 | 102 | 51 | 102 | 75-125 | 0 | 20 | ug/L | 01.27.14 07:52 | |
| Dichlorodifluoromethane | <0.22 | 50 | 49 | 98 | 52 | 104 | 30-155 | 6 | 20 | ug/L | 01.27.14 07:52 | |
| 1,1-Dichloroethane | <0.11 | 50 | 52 | 104 | 54 | 108 | 70-135 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| 1,2-Dichloroethane | <0.18 | 50 | 54 | 108 | 55 | 110 | 70-130 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| 1,1-Dichloroethene | <0.20 | 50 | 49 | 98 | 53 | 106 | 70-130 | 8 | 20 | ug/L | 01.27.14 07:52 | |
| cis-1,2-Dichloroethene | <0.21 | 50 | 51 | 102 | 53 | 106 | 70-125 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| trans-1,2-Dichloroethene | <0.21 | 50 | 51 | 102 | 53 | 106 | 60-140 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| 1,2-Dichloropropane | <0.15 | 50 | 53 | 106 | 55 | 110 | 75-125 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| cis-1,3-Dichloropropene | <0.10 | 50 | 56 | 112 | 56 | 112 | 70-130 | 0 | 20 | ug/L | 01.27.14 07:52 | |
| trans-1,3-Dichloropropene | <0.11 | 50 | 55 | 110 | 57 | 114 | 55-140 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| Ethylbenzene | <0.19 | 50 | 51 | 102 | 52 | 104 | 75-125 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| 2-Hexanone | <0.32 | 100 | 120 | 120 | 130 | 130 | 55-130 | 8 | 20 | ug/L | 01.27.14 07:52 | |
| Isopropylbenzene | <0.15 | 50 | 50 | 100 | 51 | 102 | 75-125 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| Methyl acetate | <0.26 | 50 | 55 | 110 | 57 | 114 | 65-135 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| Methylcyclohexane | <0.11 | 50 | 54 | 108 | 53 | 106 | 65-135 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| Methylene chloride | <0.42 | 50 | 50 | 100 | 52 | 104 | 55-140 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| 4-Methyl-2-pentanone (MIBK) | <0.26 | 100 | 120 | 120 | 120 | 120 | 60-135 | 0 | 20 | ug/L | 01.27.14 07:52 | |
| Methyl tert-butyl ether | <0.18 | 100 | 110 | 110 | 110 | 110 | 65-125 | 0 | 20 | ug/L | 01.27.14 07:52 | |
| Styrene | <0.18 | 50 | 52 | 104 | 53 | 106 | 65-135 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| 1,1,2,2-Tetrachloroethane | <0.18 | 50 | 55 | 110 | 57 | 114 | 65-130 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| Tetrachloroethene | <0.16 | 50 | 52 | 104 | 52 | 104 | 45-150 | 0 | 20 | ug/L | 01.27.14 07:52 | |
| Toluene | <0.14 | 50 | 50 | 100 | 50 | 100 | 75-120 | 0 | 20 | ug/L | 01.27.14 07:52 | |
| 1,2,4-Trichlorobenzene | <0.17 | 50 | 57 | 114 | 58 | 116 | 65-135 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| 1,1,1-Trichloroethane | <0.16 | 50 | 49 | 98 | 51 | 102 | 65-130 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| 1,1,2-Trichloroethane | <0.25 | 50 | 52 | 104 | 54 | 108 | 75-125 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| Trichloroethene | <0.19 | 50 | 52 | 104 | 53 | 106 | 70-125 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| Trichlorofluoromethane | <0.53 | 50 | 51 | 102 | 53 | 106 | 60-145 | 4 | 20 | ug/L | 01.27.14 07:52 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <0.11 | 50 | 50 | 100 | 51 | 102 | 65-130 | 2 | 20 | ug/L | 01.27.14 07:52 | |
| Vinyl chloride | <0.19 | 50 | 48 | 96 | 50 | 100 | 50-145 | 4 | 20 | ug/L | 01.27.14 07:52 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 101 | | 102 | | 103 | | 53-159 | % | 01.27.14 07:52 |
| 4-Bromofluorobenzene | 99 | | 98 | | 99 | | 30-186 | % | 01.27.14 07:52 |

# QC Summary 477891

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B

Seq Number: 932992 Matrix: Water Date Prep: 01.27.14

MB Sample Id: 650304-1-BLK LCS Sample Id: 650304-1-BKS LCSD Sample Id: 650304-1-BSD

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| Toluene-D8 | 98 | | 97 | | 97 | | 70-130 | % | 01.27.14 07:52 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B

Seq Number: 933016 Matrix: Water Date Prep: 01.27.14

MB Sample Id: 650315-1-BLK LCS Sample Id: 650315-1-BKS LCSD Sample Id: 650315-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <0.35 | 100 | 120 | 120 | 120 | 120 | 40-140 | 0 | 20 | ug/L | 01.27.14 22:17 | |
| Benzene | <0.16 | 50 | 51 | 102 | 48 | 96 | 80-120 | 6 | 20 | ug/L | 01.27.14 22:17 | |
| Bromodichloromethane | <0.25 | 50 | 54 | 108 | 52 | 104 | 75-120 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| Bromoform | <0.17 | 50 | 57 | 114 | 56 | 112 | 70-130 | 2 | 20 | ug/L | 01.27.14 22:17 | |
| Bromomethane | <0.25 | 50 | 52 | 104 | 49 | 98 | 30-145 | 6 | 20 | ug/L | 01.27.14 22:17 | |
| Carbon disulfide | <0.26 | 50 | 42 | 84 | 45 | 90 | 35-160 | 7 | 20 | ug/L | 01.27.14 22:17 | |
| Carbon tetrachloride | <0.33 | 50 | 50 | 100 | 49 | 98 | 65-140 | 2 | 20 | ug/L | 01.27.14 22:17 | |
| Chlorobenzene | <0.15 | 50 | 49 | 98 | 48 | 96 | 80-120 | 2 | 20 | ug/L | 01.27.14 22:17 | |
| Chloroethane | <0.26 | 50 | 53 | 106 | 50 | 100 | 60-135 | 6 | 20 | ug/L | 01.27.14 22:17 | |
| 2-Butanone (MEK) | <0.28 | 100 | 120 | 120 | 130 | 130 | 30-150 | 8 | 20 | ug/L | 01.27.14 22:17 | |
| Chloroform | <0.16 | 50 | 51 | 102 | 49 | 98 | 65-135 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| Chloromethane | <0.25 | 50 | 44 | 88 | 45 | 90 | 40-125 | 2 | 20 | ug/L | 01.27.14 22:17 | |
| Cyclohexane | <0.15 | 50 | 47 | 94 | 45 | 90 | 65-135 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| Dibromochloromethane | <0.15 | 50 | 53 | 106 | 52 | 104 | 60-135 | 2 | 20 | ug/L | 01.27.14 22:17 | |
| 1,2-Dibromo-3-chloropropane (DBCP) | <0.19 | 50 | 56 | 112 | 58 | 116 | 50-130 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| 1,2-Dibromoethane (EDB) | <0.18 | 50 | 53 | 106 | 54 | 108 | 80-120 | 2 | 20 | ug/L | 01.27.14 22:17 | |
| 1,2-Dichlorobenzene | <0.14 | 50 | 50 | 100 | 49 | 98 | 70-120 | 2 | 20 | ug/L | 01.27.14 22:17 | |
| 1,3-Dichlorobenzene | <0.17 | 50 | 50 | 100 | 48 | 96 | 75-125 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| 1,4-Dichlorobenzene | <0.17 | 50 | 49 | 98 | 48 | 96 | 75-125 | 2 | 20 | ug/L | 01.27.14 22:17 | |
| Dichlorodifluoromethane | <0.22 | 50 | 52 | 104 | 52 | 104 | 30-155 | 0 | 20 | ug/L | 01.27.14 22:17 | |
| 1,1-Dichloroethane | <0.11 | 50 | 52 | 104 | 50 | 100 | 70-135 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| 1,2-Dichloroethane | <0.18 | 50 | 55 | 110 | 52 | 104 | 70-130 | 6 | 20 | ug/L | 01.27.14 22:17 | |
| 1,1-Dichloroethene | <0.20 | 50 | 54 | 108 | 49 | 98 | 70-130 | 10 | 20 | ug/L | 01.27.14 22:17 | |
| cis-1,2-Dichloroethene | <0.21 | 50 | 51 | 102 | 48 | 96 | 70-125 | 6 | 20 | ug/L | 01.27.14 22:17 | |
| trans-1,2-Dichloroethene | <0.21 | 50 | 52 | 104 | 48 | 96 | 60-140 | 8 | 20 | ug/L | 01.27.14 22:17 | |
| 1,2-Dichloropropane | <0.15 | 50 | 53 | 106 | 51 | 102 | 75-125 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| cis-1,3-Dichloropropene | <0.10 | 50 | 55 | 110 | 52 | 104 | 70-130 | 6 | 20 | ug/L | 01.27.14 22:17 | |
| trans-1,3-Dichloropropene | <0.11 | 50 | 54 | 108 | 54 | 108 | 55-140 | 0 | 20 | ug/L | 01.27.14 22:17 | |
| Ethylbenzene | <0.19 | 50 | 50 | 100 | 48 | 96 | 75-125 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| 2-Hexanone | <0.32 | 100 | 120 | 120 | 130 | 130 | 55-130 | 8 | 20 | ug/L | 01.27.14 22:17 | |
| Isopropylbenzene | <0.15 | 50 | 50 | 100 | 47 | 94 | 75-125 | 6 | 20 | ug/L | 01.27.14 22:17 | |
| Methyl acetate | <0.26 | 50 | 54 | 108 | 57 | 114 | 65-135 | 5 | 20 | ug/L | 01.27.14 22:17 | |
| Methylcyclohexane | <0.11 | 50 | 51 | 102 | 49 | 98 | 65-135 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| Methylene chloride | <0.42 | 50 | 52 | 104 | 48 | 96 | 55-140 | 8 | 20 | ug/L | 01.27.14 22:17 | |
| 4-Methyl-2-pentanone (MIBK) | <0.26 | 100 | 120 | 120 | 120 | 120 | 60-135 | 0 | 20 | ug/L | 01.27.14 22:17 | |
| Methyl tert-butyl ether | <0.18 | 100 | 110 | 110 | 110 | 110 | 65-125 | 0 | 20 | ug/L | 01.27.14 22:17 | |
| Styrene | <0.18 | 50 | 51 | 102 | 49 | 98 | 65-135 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| 1,1,2,2-Tetrachloroethane | <0.18 | 50 | 54 | 108 | 55 | 110 | 65-130 | 2 | 20 | ug/L | 01.27.14 22:17 | |
| Tetrachloroethene | <0.16 | 50 | 50 | 100 | 48 | 96 | 45-150 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| Toluene | <0.14 | 50 | 49 | 98 | 47 | 94 | 75-120 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| 1,2,4-Trichlorobenzene | <0.17 | 50 | 54 | 108 | 54 | 108 | 65-135 | 0 | 20 | ug/L | 01.27.14 22:17 | |
| 1,1,1-Trichloroethane | <0.16 | 50 | 50 | 100 | 48 | 96 | 65-130 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| 1,1,2-Trichloroethane | <0.25 | 50 | 53 | 106 | 52 | 104 | 75-125 | 2 | 20 | ug/L | 01.27.14 22:17 | |
| Trichloroethene | <0.19 | 50 | 52 | 104 | 49 | 98 | 70-125 | 6 | 20 | ug/L | 01.27.14 22:17 | |
| Trichlorofluoromethane | <0.53 | 50 | 54 | 108 | 54 | 108 | 60-145 | 0 | 20 | ug/L | 01.27.14 22:17 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <0.11 | 50 | 58 | 116 | 56 | 112 | 65-130 | 4 | 20 | ug/L | 01.27.14 22:17 | |
| Vinyl chloride | <0.19 | 50 | 51 | 102 | 51 | 102 | 50-145 | 0 | 20 | ug/L | 01.27.14 22:17 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 105 | | 104 | | 104 | | 53-159 | % | 01.27.14 22:17 |
| 4-Bromofluorobenzene | 101 | | 100 | | 100 | | 30-186 | % | 01.27.14 22:17 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** VOCs by SW-846 8260B — Prep Method: SW5030B
Seq Number: 933016 — Matrix: Water — Date Prep: 01.27.14
MB Sample Id: 650315-1-BLK — LCS Sample Id: 650315-1-BKS — LCSD Sample Id: 650315-1-BSD

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| Toluene-D8 | 98 | | 97 | | 98 | | 70-130 | % | 01.27.14 22:17 |

**Analytical Method:** VOCs by SW-846 8260B — Prep Method: SW5030B
Seq Number: 933002 — Matrix: Water — Date Prep: 01.28.14
MB Sample Id: 650372-1-BLK — LCS Sample Id: 650372-1-BKS — LCSD Sample Id: 650372-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <0.35 | 100 | 110 | 110 | 110 | 110 | 40-140 | 0 | 20 | ug/L | 01.28.14 10:05 | |
| Chlorobenzene | <0.15 | 50 | 52 | 104 | 52 | 104 | 80-120 | 0 | 20 | ug/L | 01.28.14 10:05 | |
| cis-1,2-Dichloroethene | <0.21 | 50 | 49 | 98 | 50 | 100 | 70-125 | 2 | 20 | ug/L | 01.28.14 10:05 | |
| Ethylbenzene | <0.19 | 50 | 52 | 104 | 53 | 106 | 75-125 | 2 | 20 | ug/L | 01.28.14 10:05 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 105 | | 106 | | 105 | | 53-159 | % | 01.28.14 10:05 |
| 4-Bromofluorobenzene | 102 | | 100 | | 101 | | 30-186 | % | 01.28.14 10:05 |
| Toluene-D8 | 106 | | 103 | | 104 | | 70-130 | % | 01.28.14 10:05 |

**Analytical Method:** VOCs by SW-846 8260B — Prep Method: SW5030B
Seq Number: 933149 — Matrix: Water — Date Prep: 01.31.14
MB Sample Id: 650476-1-BLK — LCS Sample Id: 650476-1-BKS — LCSD Sample Id: 650476-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | <0.21 | 50 | 50 | 100 | 52 | 104 | 70-125 | 4 | 20 | ug/L | 01.31.14 10:44 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 101 | | 99 | | 100 | | 53-159 | % | 01.31.14 10:44 |
| 4-Bromofluorobenzene | 104 | | 102 | | 102 | | 30-186 | % | 01.31.14 10:44 |
| Toluene-D8 | 102 | | 101 | | 101 | | 70-130 | % | 01.31.14 10:44 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 932827 Matrix: Water Date Prep: 01.25.14
Parent Sample Id: 477891-001 MS Sample Id: 477891-001 S MSD Sample Id: 477891-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <350 | 100000 | 120000 | 120 | 120000 | 120 | 40-140 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| Benzene | <160 | 50000 | 50000 | 100 | 51000 | 102 | 77-118 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| Bromodichloromethane | <250 | 50000 | 50000 | 100 | 50000 | 100 | 68-125 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| Bromoform | <170 | 50000 | 46000 | 92 | 46000 | 92 | 53-112 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| Bromomethane | <250 | 50000 | 49000 | 98 | 51000 | 102 | 63-137 | 4 | 20 | ug/L | 01.25.14 19:19 | |
| Carbon disulfide | <260 | 50000 | 48000 | 96 | 50000 | 100 | 26-147 | 4 | 20 | ug/L | 01.25.14 19:19 | |
| Carbon tetrachloride | <330 | 50000 | 46000 | 92 | 45000 | 90 | 56-138 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| Chlorobenzene | 460 | 50000 | 50000 | 99 | 49000 | 97 | 71-114 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| Chloroethane | <260 | 50000 | 57000 | 114 | 57000 | 114 | 60-137 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| 2-Butanone (MEK) | <280 | 100000 | 95000 | 95 | 100000 | 100 | 50-152 | 5 | 20 | ug/L | 01.25.14 19:19 | |
| Chloroform | <160 | 50000 | 47000 | 94 | 46000 | 92 | 65-131 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| Chloromethane | <250 | 50000 | 53000 | 106 | 58000 | 116 | 48-151 | 9 | 20 | ug/L | 01.25.14 19:19 | |
| Cyclohexane | <150 | 50000 | 40000 | 80 | 42000 | 84 | 61-141 | 5 | 20 | ug/L | 01.25.14 19:19 | |
| Dibromochloromethane | <150 | 50000 | 50000 | 100 | 52000 | 104 | 53-125 | 4 | 20 | ug/L | 01.25.14 19:19 | |
| 1,2-Dibromo-3-chloropropane (DBCP) | <190 | 50000 | 50000 | 100 | 51000 | 102 | 53-121 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| 1,2-Dibromoethane (EDB) | <180 | 50000 | 51000 | 102 | 52000 | 104 | 66-125 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| 1,2-Dichlorobenzene | <140 | 50000 | 53000 | 106 | 53000 | 106 | 58-124 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| 1,3-Dichlorobenzene | <170 | 50000 | 52000 | 104 | 52000 | 104 | 62-120 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| 1,4-Dichlorobenzene | 210 | 50000 | 49000 | 98 | 49000 | 98 | 64-114 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| Dichlorodifluoromethane | <220 | 50000 | 46000 | 92 | 46000 | 92 | 38-145 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| 1,1-Dichloroethane | <110 | 50000 | 49000 | 98 | 50000 | 100 | 69-132 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| 1,2-Dichloroethane | <180 | 50000 | 50000 | 100 | 48000 | 96 | 55-141 | 4 | 20 | ug/L | 01.25.14 19:19 | |
| 1,1-Dichloroethene | <200 | 50000 | 48000 | 96 | 51000 | 102 | 62-131 | 6 | 20 | ug/L | 01.25.14 19:19 | |
| cis-1,2-Dichloroethene | 7900 | 50000 | 54000 | 92 | 56000 | 96 | 22-185 | 4 | 20 | ug/L | 01.25.14 19:19 | |
| trans-1,2-Dichloroethene | <210 | 50000 | 48000 | 96 | 50000 | 100 | 65-135 | 4 | 20 | ug/L | 01.25.14 19:19 | |
| 1,2-Dichloropropane | <150 | 50000 | 51000 | 102 | 53000 | 106 | 78-121 | 4 | 20 | ug/L | 01.25.14 19:19 | |
| cis-1,3-Dichloropropene | <100 | 50000 | 47000 | 94 | 48000 | 96 | 67-113 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| trans-1,3-Dichloropropene | <110 | 50000 | 53000 | 106 | 55000 | 110 | 50-125 | 4 | 20 | ug/L | 01.25.14 19:19 | |
| Ethylbenzene | <190 | 50000 | 52000 | 104 | 51000 | 102 | 66-127 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| 2-Hexanone | <320 | 100000 | 91000 | 91 | 94000 | 94 | 55-136 | 3 | 20 | ug/L | 01.25.14 19:19 | |
| Isopropylbenzene | <150 | 50000 | 43000 | 86 | 44000 | 88 | 58-127 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| Methyl acetate | <260 | 50000 | 52000 | 104 | 53000 | 106 | 65-135 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| Methylcyclohexane | <110 | 50000 | 40000 | 80 | 40000 | 80 | 64-128 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| Methylene chloride | <420 | 50000 | 52000 | 104 | 54000 | 108 | 63-150 | 4 | 20 | ug/L | 01.25.14 19:19 | |
| 4-Methyl-2-pentanone (MIBK) | <260 | 100000 | 97000 | 97 | 98000 | 98 | 65-132 | 1 | 20 | ug/L | 01.25.14 19:19 | |
| Methyl tert-butyl ether | <180 | 100000 | 93000 | 93 | 100000 | 100 | 58-141 | 7 | 20 | ug/L | 01.25.14 19:19 | |
| Styrene | <180 | 50000 | 48000 | 96 | 48000 | 96 | 50-133 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| 1,1,2,2-Tetrachloroethane | <180 | 50000 | 52000 | 104 | 53000 | 106 | 63-126 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| Tetrachloroethene | <160 | 50000 | 43000 | 86 | 42000 | 84 | 52-125 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| Toluene | <140 | 50000 | 49000 | 98 | 49000 | 98 | 65-123 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| 1,2,4-Trichlorobenzene | <170 | 50000 | 43000 | 86 | 45000 | 90 | 34-131 | 5 | 20 | ug/L | 01.25.14 19:19 | |
| 1,1,1-Trichloroethane | <160 | 50000 | 46000 | 92 | 45000 | 90 | 59-138 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| 1,1,2-Trichloroethane | <250 | 50000 | 51000 | 102 | 52000 | 104 | 72-115 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| Trichloroethene | <190 | 50000 | 52000 | 104 | 49000 | 98 | 65-125 | 6 | 20 | ug/L | 01.25.14 19:19 | |
| Trichlorofluoromethane | <530 | 50000 | 46000 | 92 | 45000 | 90 | 51-145 | 2 | 20 | ug/L | 01.25.14 19:19 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <110 | 50000 | 45000 | 90 | 45000 | 90 | 53-138 | 0 | 20 | ug/L | 01.25.14 19:19 | |
| Vinyl chloride | 1900 | 50000 | 51000 | 98 | 55000 | 106 | 52-140 | 8 | 20 | ug/L | 01.25.14 19:19 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 87 | | 84 | | 53-159 | % | 01.25.14 19:19 |
| 4-Bromofluorobenzene | 95 | | 97 | | 30-186 | % | 01.25.14 19:19 |

# QC Summary 477891

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B

Seq Number: 932827 Matrix: Water Date Prep: 01.25.14

Parent Sample Id: 477891-001 MS Sample Id: 477891-001 S MSD Sample Id: 477891-001 SD

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| Toluene-D8 | 99 | | 98 | | 70-130 | % | 01.25.14 19:19 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 932992 Matrix: Water Date Prep: 01.27.14
Parent Sample Id: 477891-008 MS Sample Id: 477891-008 S MSD Sample Id: 477891-008 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <0.35 | 100 | 120 | 120 | 120 | 120 | 40-140 | 0 | 20 | ug/L | 01.27.14 18:05 | |
| Benzene | <0.16 | 50 | 52 | 104 | 53 | 106 | 77-118 | 2 | 20 | ug/L | 01.27.14 18:05 | |
| Bromodichloromethane | <0.25 | 50 | 54 | 108 | 56 | 112 | 68-125 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| Bromoform | <0.17 | 50 | 55 | 110 | 58 | 116 | 53-112 | 5 | 20 | ug/L | 01.27.14 18:05 | X |
| Bromomethane | <0.25 | 50 | 49 | 98 | 50 | 100 | 63-137 | 2 | 20 | ug/L | 01.27.14 18:05 | |
| Carbon disulfide | <0.26 | 50 | 47 | 94 | 48 | 96 | 26-147 | 2 | 20 | ug/L | 01.27.14 18:05 | |
| Carbon tetrachloride | <0.33 | 50 | 52 | 104 | 55 | 110 | 56-138 | 6 | 20 | ug/L | 01.27.14 18:05 | |
| Chlorobenzene | <0.15 | 50 | 50 | 100 | 52 | 104 | 71-114 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| Chloroethane | <0.26 | 50 | 55 | 110 | 53 | 106 | 60-137 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| 2-Butanone (MEK) | <0.28 | 100 | 130 | 130 | 130 | 130 | 50-152 | 0 | 20 | ug/L | 01.27.14 18:05 | |
| Chloroform | <0.16 | 50 | 53 | 106 | 55 | 110 | 65-131 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| Chloromethane | <0.25 | 50 | 42 | 84 | 41 | 82 | 48-151 | 2 | 20 | ug/L | 01.27.14 18:05 | |
| Cyclohexane | <0.15 | 50 | 42 | 84 | 43 | 86 | 61-141 | 2 | 20 | ug/L | 01.27.14 18:05 | |
| Dibromochloromethane | <0.15 | 50 | 53 | 106 | 55 | 110 | 53-125 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| 1,2-Dibromo-3-chloropropane (DBCP) | <0.19 | 50 | 55 | 110 | 57 | 114 | 53-121 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| 1,2-Dibromoethane (EDB) | <0.18 | 50 | 54 | 108 | 57 | 114 | 66-125 | 5 | 20 | ug/L | 01.27.14 18:05 | |
| 1,2-Dichlorobenzene | <0.14 | 50 | 51 | 102 | 54 | 108 | 58-124 | 6 | 20 | ug/L | 01.27.14 18:05 | |
| 1,3-Dichlorobenzene | <0.17 | 50 | 50 | 100 | 53 | 106 | 62-120 | 6 | 20 | ug/L | 01.27.14 18:05 | |
| 1,4-Dichlorobenzene | <0.17 | 50 | 50 | 100 | 52 | 104 | 64-114 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| Dichlorodifluoromethane | <0.22 | 50 | 31 | 62 | 32 | 64 | 38-145 | 3 | 20 | ug/L | 01.27.14 18:05 | |
| 1,1-Dichloroethane | <0.11 | 50 | 53 | 106 | 55 | 110 | 69-132 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| 1,2-Dichloroethane | <0.18 | 50 | 55 | 110 | 56 | 112 | 55-141 | 2 | 20 | ug/L | 01.27.14 18:05 | |
| 1,1-Dichloroethene | <0.20 | 50 | 55 | 110 | 52 | 104 | 62-131 | 6 | 20 | ug/L | 01.27.14 18:05 | |
| cis-1,2-Dichloroethene | <0.21 | 50 | 53 | 106 | 54 | 108 | 22-185 | 2 | 20 | ug/L | 01.27.14 18:05 | |
| trans-1,2-Dichloroethene | <0.21 | 50 | 52 | 104 | 54 | 108 | 65-135 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| 1,2-Dichloropropane | <0.15 | 50 | 54 | 108 | 55 | 110 | 78-121 | 2 | 20 | ug/L | 01.27.14 18:05 | |
| cis-1,3-Dichloropropene | <0.10 | 50 | 53 | 106 | 55 | 110 | 67-113 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| trans-1,3-Dichloropropene | <0.11 | 50 | 54 | 108 | 57 | 114 | 50-125 | 5 | 20 | ug/L | 01.27.14 18:05 | |
| Ethylbenzene | <0.19 | 50 | 51 | 102 | 52 | 104 | 66-127 | 2 | 20 | ug/L | 01.27.14 18:05 | |
| 2-Hexanone | <0.32 | 100 | 130 | 130 | 130 | 130 | 55-136 | 0 | 20 | ug/L | 01.27.14 18:05 | |
| Isopropylbenzene | <0.15 | 50 | 50 | 100 | 52 | 104 | 58-127 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| Methyl acetate | <0.26 | 50 | 51 | 102 | 50 | 100 | 65-135 | 2 | 20 | ug/L | 01.27.14 18:05 | |
| Methylcyclohexane | <0.11 | 50 | 52 | 104 | 52 | 104 | 64-128 | 0 | 20 | ug/L | 01.27.14 18:05 | |
| Methylene chloride | <0.42 | 50 | 48 | 96 | 48 | 96 | 63-150 | 0 | 20 | ug/L | 01.27.14 18:05 | |
| 4-Methyl-2-pentanone (MIBK) | <0.26 | 100 | 120 | 120 | 120 | 120 | 65-132 | 0 | 20 | ug/L | 01.27.14 18:05 | |
| Methyl tert-butyl ether | <0.18 | 100 | 110 | 110 | 120 | 120 | 58-141 | 9 | 20 | ug/L | 01.27.14 18:05 | |
| Styrene | <0.18 | 50 | 51 | 102 | 53 | 106 | 50-133 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| 1,1,2,2-Tetrachloroethane | <0.18 | 50 | 54 | 108 | 57 | 114 | 63-126 | 5 | 20 | ug/L | 01.27.14 18:05 | |
| Tetrachloroethene | <0.16 | 50 | 50 | 100 | 52 | 104 | 52-125 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| Toluene | <0.14 | 50 | 50 | 100 | 52 | 104 | 65-123 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| 1,2,4-Trichlorobenzene | <0.17 | 50 | 53 | 106 | 57 | 114 | 34-131 | 7 | 20 | ug/L | 01.27.14 18:05 | |
| 1,1,1-Trichloroethane | <0.16 | 50 | 52 | 104 | 55 | 110 | 59-138 | 6 | 20 | ug/L | 01.27.14 18:05 | |
| 1,1,2-Trichloroethane | <0.25 | 50 | 53 | 106 | 55 | 110 | 72-115 | 4 | 20 | ug/L | 01.27.14 18:05 | |
| Trichloroethene | <0.19 | 50 | 64 | 128 | 57 | 114 | 65-125 | 12 | 20 | ug/L | 01.27.14 18:05 | X |
| Trichlorofluoromethane | <0.53 | 50 | 51 | 102 | 54 | 108 | 51-145 | 6 | 20 | ug/L | 01.27.14 18:05 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <0.11 | 50 | 49 | 98 | 45 | 90 | 53-138 | 9 | 20 | ug/L | 01.27.14 18:05 | |
| Vinyl chloride | <0.19 | 50 | 45 | 90 | 45 | 90 | 52-140 | 0 | 20 | ug/L | 01.27.14 18:05 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 103 | | 103 | | 53-159 | % | 01.27.14 18:05 |
| 4-Bromofluorobenzene | 100 | | 100 | | 30-186 | % | 01.27.14 18:05 |

# QC Summary 477891

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B

Seq Number: 932992 Matrix: Water Date Prep: 01.27.14

Parent Sample Id: 477891-008 MS Sample Id: 477891-008 S MSD Sample Id: 477891-008 SD

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| Toluene-D8 | 98 | | 98 | | 70-130 | % | 01.27.14 18:05 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 933016 Matrix: Water Date Prep: 01.27.14
Parent Sample Id: 477891-023 MS Sample Id: 477891-023 S MSD Sample Id: 477891-023 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <0.35 | 100 | 110 | 110 | 110 | 110 | 40-140 | 0 | 20 | ug/L | 01.28.14 06:44 | |
| Benzene | <0.16 | 50 | 52 | 104 | 49 | 98 | 77-118 | 6 | 20 | ug/L | 01.28.14 06:44 | |
| Bromodichloromethane | <0.25 | 50 | 56 | 112 | 54 | 108 | 68-125 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| Bromoform | <0.17 | 50 | 57 | 114 | 56 | 112 | 53-112 | 2 | 20 | ug/L | 01.28.14 06:44 | X |
| Bromomethane | <0.25 | 50 | 59 | 118 | 52 | 104 | 63-137 | 13 | 20 | ug/L | 01.28.14 06:44 | |
| Carbon disulfide | <0.26 | 50 | 37 | 74 | 42 | 84 | 26-147 | 13 | 20 | ug/L | 01.28.14 06:44 | |
| Carbon tetrachloride | <0.33 | 50 | 50 | 100 | 50 | 100 | 56-138 | 0 | 20 | ug/L | 01.28.14 06:44 | |
| Chlorobenzene | <0.15 | 50 | 52 | 104 | 50 | 100 | 71-114 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| Chloroethane | <0.26 | 50 | 63 | 126 | 53 | 106 | 60-137 | 17 | 20 | ug/L | 01.28.14 06:44 | |
| 2-Butanone (MEK) | <0.28 | 100 | 120 | 120 | 120 | 120 | 50-152 | 0 | 20 | ug/L | 01.28.14 06:44 | |
| Chloroform | <0.16 | 50 | 53 | 106 | 52 | 104 | 65-131 | 2 | 20 | ug/L | 01.28.14 06:44 | |
| Chloromethane | <0.25 | 50 | 48 | 96 | 42 | 84 | 48-151 | 13 | 20 | ug/L | 01.28.14 06:44 | |
| Cyclohexane | <0.15 | 50 | 44 | 88 | 49 | 98 | 61-141 | 11 | 20 | ug/L | 01.28.14 06:44 | |
| Dibromochloromethane | <0.15 | 50 | 55 | 110 | 54 | 108 | 53-125 | 2 | 20 | ug/L | 01.28.14 06:44 | |
| 1,2-Dibromo-3-chloropropane (DBCP) | <0.19 | 50 | 56 | 112 | 58 | 116 | 53-121 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| 1,2-Dibromoethane (EDB) | <0.18 | 50 | 55 | 110 | 54 | 108 | 66-125 | 2 | 20 | ug/L | 01.28.14 06:44 | |
| 1,2-Dichlorobenzene | <0.14 | 50 | 54 | 108 | 52 | 104 | 58-124 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| 1,3-Dichlorobenzene | <0.17 | 50 | 53 | 106 | 51 | 102 | 62-120 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| 1,4-Dichlorobenzene | <0.17 | 50 | 52 | 104 | 51 | 102 | 64-114 | 2 | 20 | ug/L | 01.28.14 06:44 | |
| Dichlorodifluoromethane | <0.22 | 50 | 52 | 104 | 47 | 94 | 38-145 | 10 | 20 | ug/L | 01.28.14 06:44 | |
| 1,1-Dichloroethane | <0.11 | 50 | 52 | 104 | 50 | 100 | 69-132 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| 1,2-Dichloroethane | <0.18 | 50 | 54 | 108 | 53 | 106 | 55-141 | 2 | 20 | ug/L | 01.28.14 06:44 | |
| 1,1-Dichloroethene | <0.20 | 50 | 46 | 92 | 50 | 100 | 62-131 | 8 | 20 | ug/L | 01.28.14 06:44 | |
| cis-1,2-Dichloroethene | 1.3 | 50 | 53 | 103 | 51 | 99 | 22-185 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| trans-1,2-Dichloroethene | <0.21 | 50 | 50 | 100 | 47 | 94 | 65-135 | 6 | 20 | ug/L | 01.28.14 06:44 | |
| 1,2-Dichloropropane | <0.15 | 50 | 55 | 110 | 52 | 104 | 78-121 | 6 | 20 | ug/L | 01.28.14 06:44 | |
| cis-1,3-Dichloropropene | <0.10 | 50 | 57 | 114 | 54 | 108 | 67-113 | 5 | 20 | ug/L | 01.28.14 06:44 | X |
| trans-1,3-Dichloropropene | <0.11 | 50 | 57 | 114 | 55 | 110 | 50-125 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| Ethylbenzene | <0.19 | 50 | 52 | 104 | 51 | 102 | 66-127 | 2 | 20 | ug/L | 01.28.14 06:44 | |
| 2-Hexanone | <0.32 | 100 | 130 | 130 | 130 | 130 | 55-136 | 0 | 20 | ug/L | 01.28.14 06:44 | |
| Isopropylbenzene | <0.15 | 50 | 52 | 104 | 50 | 100 | 58-127 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| Methyl acetate | <0.26 | 50 | 58 | 116 | 54 | 108 | 65-135 | 7 | 20 | ug/L | 01.28.14 06:44 | |
| Methylcyclohexane | <0.11 | 50 | 51 | 102 | 49 | 98 | 64-128 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| Methylene chloride | <0.42 | 50 | 51 | 102 | 44 | 88 | 63-150 | 15 | 20 | ug/L | 01.28.14 06:44 | |
| 4-Methyl-2-pentanone (MIBK) | <0.26 | 100 | 120 | 120 | 120 | 120 | 65-132 | 0 | 20 | ug/L | 01.28.14 06:44 | |
| Methyl tert-butyl ether | <0.18 | 100 | 110 | 110 | 110 | 110 | 58-141 | 0 | 20 | ug/L | 01.28.14 06:44 | |
| Styrene | <0.18 | 50 | 54 | 108 | 51 | 102 | 50-133 | 6 | 20 | ug/L | 01.28.14 06:44 | |
| 1,1,2,2-Tetrachloroethane | <0.18 | 50 | 57 | 114 | 57 | 114 | 63-126 | 0 | 20 | ug/L | 01.28.14 06:44 | |
| Tetrachloroethene | <0.16 | 50 | 52 | 104 | 49 | 98 | 52-125 | 6 | 20 | ug/L | 01.28.14 06:44 | |
| Toluene | <0.14 | 50 | 51 | 102 | 49 | 98 | 65-123 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| 1,2,4-Trichlorobenzene | 2.7 | 50 | 57 | 109 | 57 | 109 | 34-131 | 0 | 20 | ug/L | 01.28.14 06:44 | |
| 1,1,1-Trichloroethane | <0.16 | 50 | 52 | 104 | 49 | 98 | 59-138 | 6 | 20 | ug/L | 01.28.14 06:44 | |
| 1,1,2-Trichloroethane | <0.25 | 50 | 56 | 112 | 53 | 106 | 72-115 | 6 | 20 | ug/L | 01.28.14 06:44 | |
| Trichloroethene | <0.19 | 50 | 53 | 106 | 51 | 102 | 65-125 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| Trichlorofluoromethane | <0.53 | 50 | 57 | 114 | 54 | 108 | 51-145 | 5 | 20 | ug/L | 01.28.14 06:44 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <0.11 | 50 | 49 | 98 | 51 | 102 | 53-138 | 4 | 20 | ug/L | 01.28.14 06:44 | |
| Vinyl chloride | <0.19 | 50 | 55 | 110 | 49 | 98 | 52-140 | 12 | 20 | ug/L | 01.28.14 06:44 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 102 | | 102 | | 53-159 | % | 01.28.14 06:44 |
| 4-Bromofluorobenzene | 100 | | 100 | | 30-186 | % | 01.28.14 06:44 |

## Environmental International Corporation

VOPAK-Savannah

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 933016 Matrix: Water Date Prep: 01.27.14
Parent Sample Id: 477891-023 MS Sample Id: 477891-023 S MSD Sample Id: 477891-023 SD

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| Toluene-D8 | 97 | | 97 | | 70-130 | % | 01.28.14 06:44 |

**Analytical Method:** **VOCs by SW-846 8260B** Prep Method: SW5030B
Seq Number: 933149 Matrix: Water Date Prep: 01.31.14
Parent Sample Id: 478069-004 MS Sample Id: 478069-004 S MSD Sample Id: 478069-004 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | <0.21 | 50 | 50 | 100 | 53 | 106 | 22-185 | 6 | 20 | ug/L | 01.31.14 18:32 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-D4 | 101 | | 103 | | 53-159 | % | 01.31.14 18:32 |
| 4-Bromofluorobenzene | 102 | | 102 | | 30-186 | % | 01.31.14 18:32 |
| Toluene-D8 | 100 | | 102 | | 70-130 | % | 01.31.14 18:32 |

XENCO Laboratories

☐ 3231 NW 7th Ave, Boca Raton, Fl 33431 561-447-7373
☐ 2505 Falkenburg Rd, Tampa, Fl 33569 813-620-2000
☑ 6017 Financial Drive, Norcross, Georgia 30071 770-449-8800
☐ Philadephia/New Jersey 610-955-5649
☐ South Carolina 803-543-8099 ☐ Other

# ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Serial #: 267428 Page 1 of 3

| | |
|---|---|
| **Company-City** EIC, Atlanta GA | **Phone** 770-772-7100 |
| **Proj Name-Location** ☒ Previously done at XENCO VOPAK Savannah | **Project ID** 390020 |
| **Proj State:** AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, TX, UT Other | **Proj. Manager (PM)** Alan Sanders |
| **e-Mail Results to** ☐ PM or asanders@eicusa.com | **Fax No:** 770-772-0353 |
| **Invoice to** ☐ Accounting ☒ Inc. Invoice with Final Report ☐ Invoice must have a P.O Bill to: | |
| **Quote/Pricing:** | **P.O No:** 901245 ☐ Call for P.O. |
| **Reg Program:** UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW GA HSRA | |
| QAPP Per-Contract CLP AFCEE NAVY DOE DOD USACE OTHER: | |
| **Special DLs** ( GW DW QAPP MDLs RLs See Lab PM Included Call PM ) | |
| Sampler Name Will Grant | Signature |

**Lab Only:** WO# 477891

**TAT:** ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific.
It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

**VOCs** Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs
VOCs PP TCL DW Appdx-1 Appdx-2 CALL Other:
PAHs
FL PRO DRO GRO MA EPH MA VPH
SVOCs: Full-List DW BN&AE TCL PP Appdx-2 CALL
OC Pesticides PCBs Herbicides OP Pesticides
Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx 2
SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)
EDB / DBCP
8260 B

TAT ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d
Addn: PAH above mg/L W, mg/Kg S Highest Hit
Hold Samples (Surcharges will apply and are pre-approved)

**Remarks**
Sample Clean-ups are pre-approved as needed

Addn: Date Rcv by: From:

| | Sample ID | Sampling Date | Time | Depth ft' In" m | Matrix | Composite | Grab | # Containers | Container Size | Container Type | Preservatives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | IW-18 | 1/19/14 | 18:25 | | W | | X | 2 | 40 | C | H |
| 2 | LAW-PZ-8R | 1/19/14 | 17:31 | | W | | X | 2 | 40 | C | H |
| 3 | MW-14 | 1/19/14 | 10:19 | | W | | X | 2 | 40 | C | H |
| 4 | MW-16 | 1/20/14 | 18:21 | | W | | X | 2 | 40 | C | H |
| 5 | MW-17R | 1/21/14 | 10:03 | | W | | X | 2 | 40 | C | H |
| 6 | MW-18R | 1/20/14 | 8:56 | | W | | X | 2 | 40 | C | H |
| 7 | MW-19 | 1/20/14 | 10:54 | | W | | X | 2 | 40 | C | H |
| 8 | MW-23 | 1/20/14 | 15:37 | | W | | X | 2 | 40 | C | H |
| 9 | MW-24R | 1/19/14 | 12:40 | | W | | X | 2 | 40 | C | H |
| 10 | MW-25 | 1/20/14 | 10:05 | | W | | X | 2 | 40 | C | H |

| Relinquished by ( Initials and Sign) | Date & Time | Relinquished to ( Initials and Sign) | Date & Time |
|---|---|---|---|
| 1) A. Patti | 1/22/14 11:26 | 2) | 01/22/14 |
| 3) | | 4) | 11:26 |
| 5) | | 6) | |

Total Containers per COC: Cooler Temp: 2.1°C

Upon signings this COC you accept XENCO terms and Conditions unless otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless thereby requested. Rush Charges and Collection Fees are pre-approved.

**Preservatives:** Various (**V**), HCl pH<2 (**H**), H2SO4 pH<2 (**S**), HNO3 pH<2 (**N**), Asbc Acid&NaOH (**A**), ZnAc&NaOH (**Z**), (Cool,<4C) (**C**), None (**NA**), See Label (**L**), Other (**O**) _____

**Cont. Size**: 4oz (**4**), 8oz (**8**), 32oz (**32**), 40ml VOA (**40**), 1L (**1**), 500ml (**5**), Tedlar Bag (**B**), Various (V), Other _____ **Cont. Type:** Glass Amb (**A**), Glass Clear (**C**), Plastic (**P**), Various (**V**)

**Matrix:** Air (**A**), Product (**P**), Solid(**S**), Water (**W**), Liquid (**L**)

*Committed to Excellence in Service and Quality* *www.xenco.com*

Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previoiusly negotiated under a fully executed client contract.

XENCO Laboratories

☐ 3231 NW 7th Ave, Boca Raton, Fl 33431 561-447-7373
☐ 2505 Falkenburg Rd, Tampa, Fl 33569 813-620-2000
☒ 6017 Financial Drive, Norcross, Georgia 30071 770-449-8800
☐ Philadephia/New Jersey 610-955-5649
☐ South Carolina 803-543-8099 ☐ Other

# ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Serial #: 267427 

**Company-City:** EIC, Atlanta GA **Phone:** 770-772-7100

**Lab Only:** WO# 477891

**Proj Name-Location:** VOPAK Savannah ☒ Previously done at XENCO **Project ID:** 390020

**TAT:** ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific.
It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

**Proj State:** AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, TX, UT Other **Proj. Manager (PM):** Alan Sanders

**e-Mail Results to** ☐ PM or asanders@eicusa.com **Fax No:** 770-772-0353

**Invoice to** ☐ Accounting ☒ Inc. Invoice with Final Report ☐ Invoice must have a P.O Bill to:

**Quote/Pricing:** **P.O No:** 90145 ☐ Call for P.O.

**Reg Program:** UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW GA HSRA

QAPP Per-Contract CLP AFCEE NAVY DOE DOD USACE OTHER:

**Special DLs** ( GW DW QAPP MDLs RLs See Lab PM Included Call PM )

Sampler Name: Will Grant Signature: Will Grant

| | Sample ID | Sampling Date | Time | Depth ft' In" m | Matrix | Composite | Grab | # Containers | Container Size | Container Type | Preservatives | VOCs Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs | VOCs PP TCL DW Appdx-1 Appdx-2 CALL Other: | PAHs | FL PRO DRO GRO MA EPH MA VPH | SVOCs: Full-List DW BN&AE TCL PP Appdx-2 CALL | OC Pesticides PCBs Herbicides OP Pesticides | Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx 2 | SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs) | EDB / DBCP | 8260 B | TAT ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d | Addn: PAH above mg/L W, mg/Kg S Highest Hit | Hold Samples (Surcharges will apply and are pre-approved) | Remarks: Sample Clean-ups are pre-approved as needed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MW-26R | 1/20/14 | 12:57 | | W | | X | 2 | 40 | C | H | | | | | | | | | | ✓ | | | | | 1 |
| 2 | MW-27 | 1/20/14 | 13:58 | | W | | X | 2 | 40 | C | H | | | | | | | | | | ✓ | | | | | 2 |
| 3 | MW-29 | 1/19/14 | 11:56 | | W | | X | 2 | 40 | C | H | | | | | | | | | | ✓ | | | | | 3 |
| 4 | MW-30 | 1/19/14 | 16:06 | | W | | X | 2 | 40 | C | H | | | | | | | | | | ✓ | | | | | 4 |
| 5 | MW-31 | 1/20/14 | 14:52 | | W | | X | 2 | 40 | C | H | | | | | | | | | | ✓ | | | | | 5 |
| 6 | MW-32 | 1/21/14 | 10:43 | | W | | X | 2 | 40 | C | H | | | | | | | | | | ✓ | | | | | 6 |
| 7 | MW-33 | 1/19/14 | 15:33 | | W | | X | 2 | 40 | C | H | | | | | | | | | | ✓ | | | | | 7 |
| 8 | MW-34 | 1/20/14 | 16:26 | | W | | X | 2 | 40 | C | H | | | | | | | | | | ✓ | | | | | 8 |
| 9 | MW-35 | 1/21/14 | 9:03 | | W | | X | 2 | 40 | C | H | | | | | | | | | | ✓ | | | | | 9 |
| 10 | MW-36 | 1/21/14 | 11:15 | | W | | X | 2 | 40 | C | H | | | | | | | | | | ✓ | | | | | 10 |

| Relinquished by ( Initials and Sign) | Date & Time | Relinquished to ( Initials and Sign) | Date & Time |
|---|---|---|---|
| 1) A. Patel | 1/22/14 11:26 | 2) | 01/22/14 |
| 3) | | 4) | 11:26 |
| 5) | | 6) | |

Total Containers per COC: Cooler Temp: 2.1°C

Upon signings this COC you accept XENCO terms and Conditions unless otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved.

**Preservatives:** Various (**V**), HCl pH<2 (**H**), H2SO4 pH<2 (**S**), HNO3 pH<2 (**N**), Asbc Acid&NaOH (**A**), ZnAc&NaOH (**Z**), (Cool,<4C) (**C**), None (**NA**), See Label (**L**), Other (**O**) _____

**Cont. Size**: 4oz (**4**), 8oz (**8**), 32oz (**32**), 40ml VOA (**40**), 1L (**1**), 500ml (**5**), Tedlar Bag (**B**), Various (V), Other _____ **Cont. Type:** Glass Amb (**A**), Glass Clear (**C**), Plastic (**P**), Various (**V**)

**Matrix:** Air (**A**), Product (**P**), Solid(**S**), Water (**W**), Liquid (**L**)

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# ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Serial #: 267430 

| | |
|---|---|
| **Company-City** EIC, Atlanta GA | **Phone** 770-772-7100 |
| **Proj Name-Location** ☐ Previously done at XENCO: VOPAK Savannah | **Project ID** 390020 |
| **Proj State:** AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, TX, UT Other | **Proj. Manager (PM)** Alan Sanders |
| **e-Mail Results to** ☐ PM or asanders@eicusa.com | **Fax No:** 770-772-0353 |
| **Invoice to** ☐ Accounting ☒ Inc. Invoice with Final Report ☐ Invoice must have a P.O Bill to: | |
| **Quote/Pricing:** | **P.O No:** 90125 ☐ Call for P.O. |
| **Reg Program:** UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW GA HSRA QAPP Per-Contract CLP AFCEE NAVY DOE DOD USACE OTHER: | |
| **Special DLs** ( GW DW QAPP MDLs RLs See Lab PM Included Call PM ) | |
| Sampler Name Will Grant | Signature |

**Lab Only:** CWO# 4778911

**TAT:** ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d ~~Standard~~ TAT is project specific.
It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

| # | Sample ID | Sampling Date | Time | Depth ft" in" m | Matrix | Composite | Grab | # Containers | Container Size | Container Type | Preservatives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MW-37 | 1/20/14 | 17:11 | | W | | X | 2 | 40 | C | H |
| 2 | PAN-MW-9 | 1/19/14 | 11:04 | | W | | X | 2 | 40 | C | H |
| 3 | PAN-MW-10 | 1/19/14 | 14:56 | | W | | X | 2 | 40 | C | H |
| 4 | Trip Blank | | | | W | | | 2 | 40 | C | NA |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |

VOCs Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs
VOCs PP TCL DW Appdx-1 Appdx-2 CALL Other:
PAHs
FL PRO DRO GRO MA EPH MA VPH
SVOCs: Full-List DW BN&AE TCL PP Appdx-2 CALL
OC Pesticides PCBs Herbicides OP Pesticides
Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx 2
SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)
EDB / DBCP
8260 B

TAT ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d
Addn: PAH above mg/L W, mg/Kg S Highest Hit
Hold Samples (Surcharges will apply and are pre-approved)
Sample Clean-ups are pre-approved as needed

**Remarks**

From: Addn: Date Rcv by:

| Relinquished by ( Initials and Sign) | Date & Time | Relinquished to ( Initials and Sign) | Date & Time |
|---|---|---|---|
| 1) A. Patel | 1/22/14 11:26 | 2) | 01/22/14 1126 |
| 3) | | 4) | |
| 5) | | 6) | |

Total Containers per COC: Cooler Temp: 2.1 °C

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**Preservatives:** Various (**V**), HCl pH<2 (**H**), H2SO4 pH<2 (**S**), HNO3 pH<2 (**N**), Asbc Acid&NaOH (**A**), ZnAc&NaOH (**Z**), (Cool,<4C) (**C**), None (**NA**), See Label (**L**), Other (**O**) _____

**Cont. Size:** 4oz (**4**), 8oz (**8**), 32oz (**32**), 40ml VOA (**40**), 1L (**1**), 500ml (**5**), Tedlar Bag (**B**), Various (V), Other _____ **Cont. Type:** Glass Amb (**A**), Glass Clear (**C**), Plastic (**P**), Various (**V**)

**Matrix:** Air (**A**), Product (**P**), Solid(**S**), Water (**W**), Liquid (**L**)

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Florida Testing Services, LLC

**Client:** Environmental International Corporation

**Date/ Time Received:** 01/22/2014 11:26:00 AM

**Work Order #:** 477891

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : #61**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 2.1 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seals intact on shipping container/ cooler? | **N/A** |
| #5 Custody Seals intact on sample bottles? | **N/A** |
| #6 *Custody Seals Signed and dated? | **N/A** |
| #7 *Chain of Custody present? | **Yes** |
| #8 Sample instructions complete on Chain of Custody? | **Yes** |
| #9 Any missing/extra samples? | **No** |
| #10 Chain of Custody signed when relinquished/ received? | **Yes** |
| #11 Chain of Custody agrees with sample label(s)? | **Yes** |
| #12 Container label(s) legible and intact? | **Yes** |
| #13 Sample matrix/ properties agree with Chain of Custody? | **Yes** |
| #14 Samples in proper container/ bottle? | **Yes** |
| #15 Samples properly preserved? | **Yes** |
| #16 Sample container(s) intact? | **Yes** |
| #17 Sufficient sample amount for indicated test(s)? | **Yes** |
| #18 All samples received within hold time? | **Yes** |
| #19 Subcontract of sample(s)? | **No** |
| #20 VOC samples have zero headspace (less than 1/4 inch bubble)? | **Yes** |
| #21 <2 for all samples preserved with HNO3,HCL, H2SO4? | **N/A** |
| #22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? | **N/A** |

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

| Analyst: | PH Device/Lot#: |
|---|---|

**Checklist completed by:** Dario Lagunas Date: 01/22/2014

**Checklist reviewed by:** Eben Buchanan Date: 01/22/2014

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# FIFTH SEMIANNUAL PROGRESS REPORT

# ATTACHMENT F

# Environmental International Corporation
## Time by Job Summary
### August 2013 through January 2014

| TASKS | Aug 13 | Sep 13 | Oct 13 | Nov 13 | Dec 13 | Jan 14 | TOTAL |
|---|---|---|---|---|---|---|---|
| 390000- VOPAK:390020 - VTSI Quarterly MNA GW Sampling | 71.75 | 43.75 | 138.00 | 2.00 | 4.25 | 153.75 | 413.50 |
| 390000- VOPAK:390025 - Semi-annual report for VTSI | 54.25 | 6.00 | 0.00 | 0.00 | 0.25 | 9.50 | 70.00 |
| 390000- VOPAK:390033 - VTSI Survey Missing Wells | 28.00 | 0.50 | 0.25 | 14.50 | 137.25 | 34.75 | 215.25 |
| **TOTAL** | **154.00** | **50.25** | **138.25** | **16.50** | **141.75** | **198.00** | **698.75** |

# FIFTH SEMI-ANNUAL PROGRESS REPORT

# APPENDIX A

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# Down-hole Indicator Parameter Report

February 28, 2014

Prepared for:
**VOPAK TERMINAL SAVANNAH**
Savannah, Georgia

Project No. 390027

Prepared by:
**ENVIRONMENTAL INTERNATIONAL CORPORATION**
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# List of Attachments

A: Probe Data (CD)

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SECTION

1

# 1. INTRODUCTION

EIC is pleased to submit this report that documents EIC's evaluation of the potential impact of in situ geochemical indicator parameters on constituents of concern (COC) in groundwater, under the VRP program approved by the Georgia Environmental Protection Division (EPD) to VOPAK Terminal Savannah (VOPAK). The COC consist of volatile organic compounds (VOCs) and chlorinated VOCs (CVOCs). For this evaluation, EIC utilized down-hole multi-parameter data loggers for the continuous real-time collection of water level data and indicator parameters from selected monitoring wells.

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## 1.1 PROJECT OBJECTIVES

The primary objective was to collect continuous downhole geochemical water quality data from selected monitoring wells at the VOPAK terminal. The data was used to define the in situ baseline conditions of indicator parameters that are useful in determining whether the site-specific subsurface conditions are favorable for natural attenuation of chlorinated organic constituents. This evaluation also serves as one of the lines of evidence to verify whether MNA is effective and sustainable.

## 1.2 EIC's APPROACH

To conduct this study, EIC utilized down-hole multi-parameter data-loggers that met the well diameter restrictions of monitor wells in the area of the PCE plume. Since the data-loggers required at least a 2-inch diameter well, EIC selected four 2-inch monitoring wells for probe installation. Each data-logger continuously measures temperature, conductivity, dissolved oxygen (DO), pH, oxygen reduction potential (ORP), and other inorganic parameters at pre-programmed time intervals. The data-loggers also measured groundwater levels from pressure transducers within the probes.

EIC strategically selected well locations for the study, based on known plume characteristics and site conditions that provide the most significant data towards determining a remedial strategy. Additional criteria considered included well design, the groundwater potentiometric surface, groundwater flow direction, and locations of the highest COC concentrations. After a one-week period, EIC retrieved the devices and downloaded the data onto a field laptop computer for

analysis. The resulting data was utilized in examining the potential impact of indicator parameters on the natural attenuation of the COCs at the site. The data will also be utilized in a site conceptual model that defines the fluid flow hydrodynamics and contaminant fate and transport conditions.

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SECTION

2

# 2. FIELD ACTIVITIES

To accomplish the project goals, EIC conducted various field activities during the week of April 9, 2012. The field activities entailed the installation of multi-parameter probes in select wells. The following subsections describe the field activities.

## 2.1 INSTALLATION OF MULTI-PARAMETER DATA LOGGER

On April 12, 2012, EIC installed continuous data logging devices in four wells identified as PAN-MW-9, MW-31, MW-32, and MW-33 as illustrated in Figure 2-1. Each device was comprised of a pressure transducer and thermometer as well as sensors that measured pH, conductivity, ORP, DO, and temperature.

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Prior to the installation of the multi-parameter data loggers, EIC first programmed each device and initiated the data logger using a hand-held multi-parameter display system (MDS) supplied by the transducer manufacturer. EIC connected each device to the MDS via a communication link and programmed all 4 devices to record data at 5 minute intervals, the minimum time interval to log one week of data without exceeding the internal memory of the device.

After programming, EIC strategically installed the 4 multi-parameter data loggers into wells PAN-MW-9, MW-31, MW-32, and MW-33, as illustrated in Figure 2-1. Since PAN-MW-9, MW-32, and MW-33 were located within the CVOC and VOC plumes, EIC chose these wells to monitor the MNA indicator parameters to evaluate the potential for the natural degradation of the COC. MW-31, located outside the horizontal extent of the CVOC and VOC plumes and historically a clean well, was chosen to be a control well for EIC.

The transducers were installed in each well at a height of approximately two feet above the bottom of each well. These depths are tabulated in Table 2-1. EIC selected a height of two feet above the bottom of the well to allow an adequate head of water above the transducer and to ensure constant submersion. Also, the transducer was installed at a sufficient height above the well bottom to prevent silt on the bottom of the well from fouling the sensors of each probe.

Once the devices were lowered into the wells to the proper depths, EIC secured the probes by taping each probe cable to the well TOC and/or the well stickup casing (if available) or to a traffic

cone to ensure that the cable was immobile throughout the test. To further secure the cables at flush-to-grade (FTG) wells, EIC returned the well vault covers on the well vaults so they applied pressure on the cables.

After all devices were initially programmed, installed, and secured; EIC connected the field laptop and hand-held MDS to each data cable, respectively, to conduct a quality assurance quality control (QA/QC) test. EIC was able to confirm that the appropriate measurements were being automatically taken within the set time interval from the pressure-specific transducer and multi-parameter data logger. EIC confirmed that all devices were operating properly as programmed.

## 2.2 RETRIVAL OF DATA LOGGERS

On April 19, 2012, EIC returned to the site and successfully downloaded the data from all devices onto a field laptop. Since the data logging period for the down-hole monitored natural attenuation (MNA) indicator parameters evaluation was complete, EIC retrieved all multi-parameter data loggers from their respective wells and closed and locked these wells. Table 2-2 lists the probe operating schedule. The data downloaded from the multi-parameter probe is included as Attachment A.

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SECTION

3

# 3. DATA EVALUATION

EIC tabulated all data collected during the testing interval and then extracted a representative subset of data to remove invalid data that typically occurs during installation and withdrawal of the probes from the well. The duration of the representative data utilized in EIC's analysis begins at 5 pm on April 12, 2012 and terminates at 12 pm on April 19, 2012. Utilizing the subset of data, EIC prepared Figures 3-1 to 3-20. The following sections describe the trends observed for each of the field indicator parameters measured during the testing period.

## 3.1 IDEAL CONDITIONS FOR BIOREMEDIATION

Table 3-1 lists ideal conditions for preliminary screening of certain indicator parameters to metabolize CVOCs under anaerobic conditions (EPA, 1998). EIC prepared Table 3-2 to compare the average values of the indicator parameters monitored in several wells to the ideal conditions to determine whether the prevailing site conditions are favorable to reductive dechlorination.

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## 3.2 pH VARIATION

Referring to Figures 3-1 and 3-2, it is apparent that the pH values have remained relatively stable at wells PAN-MW-9 and MW-33, respectively. Both of these wells are located within the original footprint of the CVOC plume. From Figures 3-3 and 3-4 it apparent that the pH in MW-31 and MW-32, respectively, located hydraulically side gradient of the plume, has varied over time.

Referring to Table 3-2, the pH values in all tested wells are near ideal conditions for reductive dechlorination except that the pH at PAN-MW-9 is slightly acidic. These values represent typical groundwater conditions conducive to biodegradation processes. According to Vainberg, et al (2006), the optimal pH for microbially induced dechlorination is 5.5 to 7.5 units. Therefore, some pH enhancement may be required at PAN-MW-9 and MW-32 to provide optimal conditions for further attenuation.

## 3.3 SPECIFIC CONDUCTANCE

Referring to Figures 3-5, 3-6, and 3-8, it is apparent that the specific conductivity values have remained relatively stable at wells PAN-MW-9, MW-33, and MW-31, respectively. From Figures

3-7 it is apparent that the pH at MW-32, located hydraulically side gradient of the plume, has varied over time.

Referring to Table 3-2, the average specific conductivity in all wells ranged from 0.53 to 1.25 mS/cm. These values indicate that salinity is relatively low.

## 3.4 ORP

Referring to Figures 3-9 to 3-12, it is apparent that the ORP values declined at all 4 wells during the testing period. The most significant drop was observed at wells MW-33 and MW-32. It is also noteworthy that at MW-31 the ORP values were initially at values greater than zero but gradually declined to below zero values.

Referring to Table 3-2, the average ORP values have remained below 50 millivolts indicating favorable conditions for reductive dechlorination in all four wells. Although the ORP values at MW-31 were not the most favorable for reductive dechlorination, groundwater at MW-31 lies hydraulically sidegradient and outside the original CVOC foot-print. As such, the ORP conditions at MW-31 are irrelevant to the CVOC remediation program.

## 3.5 DISSOLVED OXYGEN

Referring to Figures 3-13 to 3-16, it is apparent that the DO values have remained relatively stable at all four wells. These values indicate that the groundwater at each well is present in an anaerobic environment. Referring to Table 3-2, the average DO values remained below 0.5 mg/L indicating favorable conditions for reductive dechlorination in all four wells.

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## 3.6 TEMPERATURE

Referring to Figures 3-17 to 3-20, it is apparent that the temperature values increased slightly at PAN-MW-9, MW-33, and MW-32. The temperature values at MW-31 remained relatively unchanged during the monitoring period.

Referring to Table 3-2, the temperature values have ranged from approximately 19 through 21 Celsius. These values represent typical groundwater conditions conducive to biodegradation processes.

SECTION

4

# 4. CONCLUSIONS

EIC utilized a continuous downhole data logger to successfully collect in situ data on various geochemical indicator parameters. Considering that the primary indicator parameters such as pH, specific conductivity, ORP, DO, and temperature were close to ideal conditions for reductive dechlorination, the CVOC plume is present in a favorable environment for natural attenuation.

According to EPA (1998), reductive dechlorination affects each of the chlorinated ethenes differently. Of these compounds, PCE is the most susceptible to reductive dechlorination because it is the most oxidized. Conversely, VC is the least susceptible to reductive dechlorination because it is the least oxidized of these compounds. Consequently, the rate of reductive dechlorination decreases as the degree of chlorination decreases (Vogel and McCarty, 1985; Bouwer, 1994). According to Murray and Richardson (1993), a gradual decrease in reductive dechlorination may explain the accumulation of VC in PCE and TCE plumes in those environments where reductive dechlorination is in process.

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Since chlorinated aliphatic hydrocarbon compounds are used as electron acceptor during reductive dechlorination, an appropriate source of carbon is essential for microbial growth to sustain such processes (Bouwer, 1994). Potential carbon sources include natural organic matter, fuel hydrocarbons, or other anthropogenic organic compounds such as those found in landfill leachate. Although the total organic content was not measured, at the VOPAK site, historic sampling has indicated presence of petroleum hydrocarbons in the CVOC foot-print. Considering that the on-going trend analysis from quarterly monitoring events indicates that both petroleum hydrocarbons and CVOC plumes have steadily decreased in size, it appears that both class of constituents have cometabolized through natural attenuation.

During subsequent monitoring events, EIC plans to collect additional samples to test for alkalinity, ferrous iron, ferric iron, total sulfite, chloride, nitrate, nitrite, sulfate, total iron, methane, ethane, ethene, and related indicator parameters from selected wells within the CVOC foot-print to verify which attenuation processes are dominant. In addition, microcosm testing may be performed to determine whether enhanced attenuation is required to reach remedial end points within the VIRP time frame. Ultimately, however, the actual CVOCs concentrations measured from periodic sampling events substantiate the remedial trend.

In another context, EIC has observed that VC has remained persistent at very low levels in down-gradient locations and, in particular, at MW-16. According to EPA (1998), vinyl chloride can be rapidly oxidized under aerobic conditions. As such, VOPAK is considering localized treatment with aerobic or iron-reduction based techniques unless VC reduces to below RRS standards within the VIRP schedule.

In summary, enhanced attenuation with pH adjustment may be required to optimize the residual PCE and treatment of VC may be required to accelerate its complete metabolism into carbon dioxide and water. The data collected from the current study will be utilized to further refine the site conceptual model. Additional data from microcosm tests, and MNA parameters may be required for further substantiate the natural attenuation process.

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SECTION 5

# 5. REFERENCES


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United States Environmental Protection Agency (EPA), 1998. *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Wate*r, EPA/600/R-98/128, September 1998.

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Vogel, T.M., and McCarty, P.L., 1985, *Biotransformation of tetrachloroethylene to trichloroethylene, dichloroethylene, vinyl chloride, and carbon dioxide under methanogenic conditions*, Applied Environmental Microbiology, Volume 49 Number 5.


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# TABLES

# Table 2-1: Well Gauging and Probe Depth Data, VOPAK Terminal Savannah, Savannah, GA

| Well ID # | Date & Time | TOC Elevation | DTW | DTB | Water Column Height | Probe Depth (Below TOC) |
|---|---|---|---|---|---|---|
| | | ft | ft | ft | ft | ft |
| PAN-MW-9 | 4/12/2012 15:28 | 12.59 | 6.82 | 14.75 | 7.93 | 12.75 |
| MW-31 | 4/12/2012 14:43 | 9.67 | 5.50 | 20.46 | 14.96 | 18.50 |
| MW-32 | 4/12/2012 15:47 | 11.70 | 6.60 | 16.40 | 9.80 | 14.50 |
| MW-33 | 4/12/2012 15:12 | 11.61 | 5.45 | 17.85 | 12.40 | 15.85 |

NOTES:
TOC = Top of Casing
DTW = Depth to Water
DTB = Depth to Bottom

## Table 2-2: Downhole Multiparamter Probe Operating Schedule

| Well Name | Data File Name | Serial # | Test Start Date/Time | Probe Installed | Test End Date/Time | Total Depth of Well From TOC | Probe Depth From TOC |
|---|---|---|---|---|---|---|---|
| MW-31 | VOPAK-5 | 10579 | 4/12/12 14:55 | 4/12/12 14:56 | 4/19/12 13:00 | 20.46 | 18.50 |
| MW-33 | VOPAK-6 | 09004 | 4/12/12 15:10 | 4/12/12 15:12 | 4/19/12 12:40 | 17.85 | 15.85 |
| PAN-MW-9 | VOPAK-7 | 17122 | 4/12/12 15:25 | 4/12/12 15:28 | 4/19/12 13:10 | 14.75 | 12.75 |
| MW-32 | VOPAK-8 | 13649 | 4/12/12 15:55 | 4/12/12 16:00 | 4/19/12 13:25 | 16.40 | 14.50 |

Notes:
TOC = Top of Casing

**Table 3-1: Ideal Conditions for Anaerobic Biodegradation**

| Parameter | Range |
|---|---|
| Dissolved Oxygen | Less than 20.5 mg/L |
| Oxidataion Reduction Potential | Less than 50 millivolts |
| pH | Between 5 and 9 units |
| Total Organic Carbon | Greater than 20 mg/L |

*Source: EPA, 1998*

**Table 3-2: Average Indicator Parameter Values Measured at VOPAK Savannah Terminal**

| Parameter | PAN-MW-9 | MW-33 | MW-32 | MW-31 |
|---|---|---|---|---|
| pH | 4.10 | 5.55 | 4.56 | 6.82 |
| Specific Conductivity (mS/cm) | 1.21 | 0.53 | 1.23 | 1.25 |
| ORP (mV) | -149.74 | -296.36 | -334.42 | -3.12 |
| Dissolved Oxygen (mg/L) | 0.24 | 0.29 | 0.26 | 0.23 |
| Temperature (°C) | 19.93 | 21.19 | 21.33 | 20.33 |

# FIGURES

STA. 5
CONTAINMENT DAM
DDV 16
VOPAK PROPERTY
GEORGIA PORTS AUTHORITY
CDV 4
GATE
CDV 3
MW-27
PAN-MW-10
49
58
57
2 - 10' EASEMENTS
DDV 10
DDV 11
MW-31
59
76
KMW-2
KMW-1
TANK FARM #3
MW-23
DDV 12
PZ-5
MW-24R
IW-10
IW-9 (FC)
36
35
37
MW-29
MW-14 (DEEP) (NL)
PAN-MW-9
IW-8
IW-7 (NL)
33
34
31
74
KMW-3
DDV 13
15' PIPE BRIDGE
TANK FARM #2
MW-33
28
32
29
IW-11 (FC)
IW-4 (FC)
MW-22 (NU) (FC)
IW-12
72
52
IW-3
IW-13 (NL)
51
CDV 5
STA. 12
STA. 11
TANK FARM #4
MW-6
DDV 1
MW-19
SCALE
25
26
27
IW-14
23
24
IW-15
IW-16
STA. 13B
IW-17
IW-18
MW-15 (NU) (FC)
PIPE BRIDGE
MW-20 (NL)
GPA GARAGE
MW-32
MW-17R
CONTAINMENT DAM
GATE
MW-16
TIDAL FLAT
(SD - 1) BERTH 50
MW-30
IW-6
IW-5
MW-21 (NL)
54
73
75
47
55
48
44
TANK FARM #1
PIPE BRIDGE
45
53
MCGEE DRIVE
GEORGIA PORTS AUTHORITY (EASEMENT)
GAF MATERIALS CORPORATION
N
SCALE IN FEET
80 40 20 0 80
OFFICE
BOILER HOUSE # 1
TURNER STREET
HART STREET
STATION 13
STA. 6
LAW-PZ-8R
MW-26R
IW-19R (FC)
MW-34
BOILER HOUSE # 2
GAF SCALE SHED
MW-28 (NL)
MW-25
TALL OIL/WATER SEPARATOR
TALL OIL RAIL RACK
STA. 4
STA. 3
STA. 2
STA. 1
CDV 6
SHOP
WAREHOUSE
MW-18R
GEORGIA PORTS AUTHORITY (EASEMENT)

LEGEND

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-15 | MONITORING WELLS SAMPLED |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON VISUAL FIELD CHECK |
| (NU) | NOT USED DUE TO SEDIMENTS IN THE WELL |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| | MULTI-PARAMETER DATA LOGGER LOCATION |

REFERENCE:
AUTOCAD BASE MAP FROM ERM REPORT TITLED
"2010 VOPAK THIRD ANNUAL REPORT ON CORRECTIVE ACTION,
HAZARDOUS SITE INVENTORY NUMBER 10484, SAVANNAH, GEORGIA"

NOTES:
ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL" AND "FC" WELLS), FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

# FIGURE 2-1
## MULTI-PARAMETER PROBE LOCATIONS
## APRIL 12, 2012 - APRIL 19, 2012

| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | C.L./S.K./A.S. | A.S. |
| APPROVED BY: R.N. | | REVISIONS NO. / DATE |

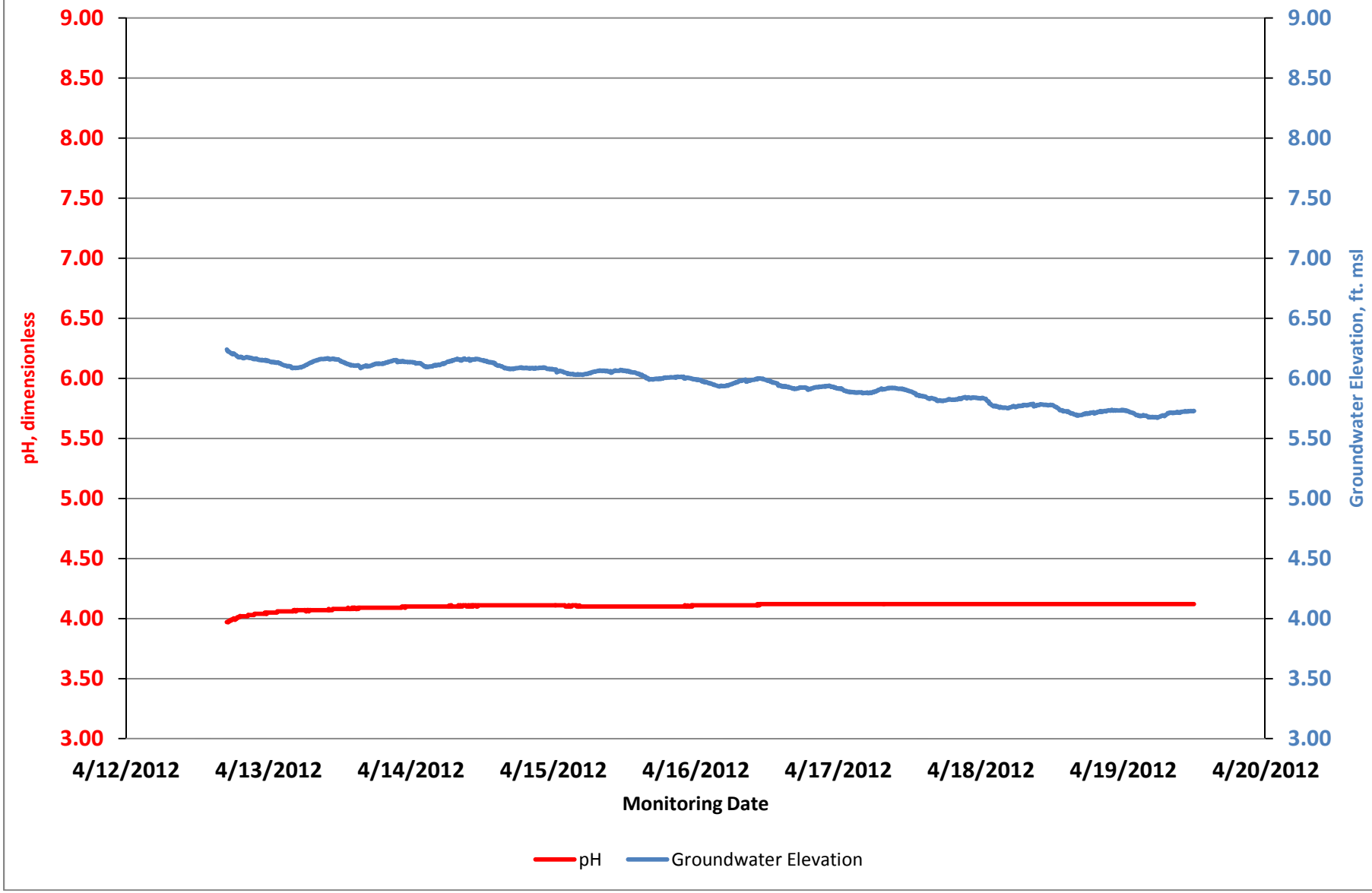
SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

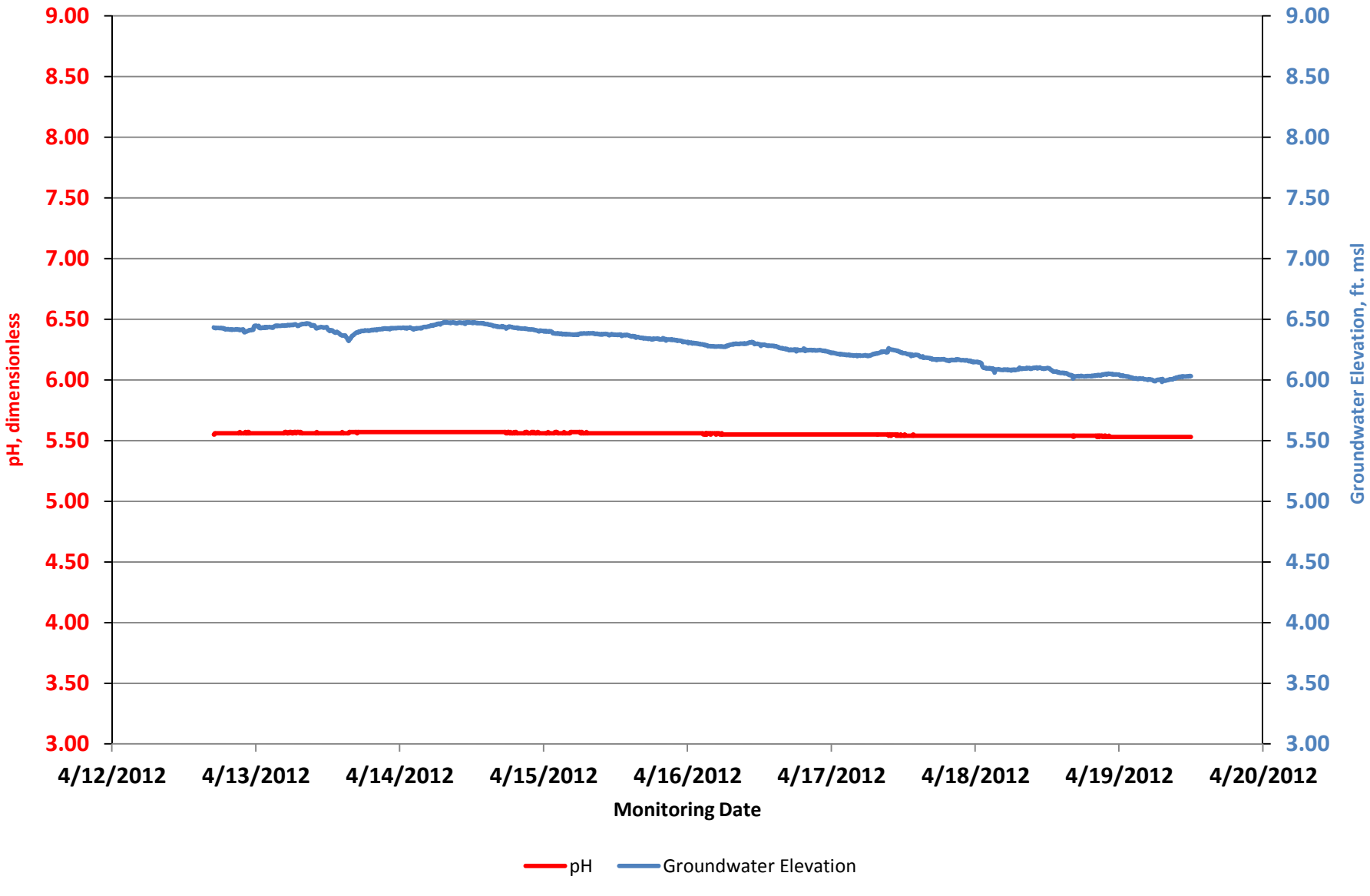
ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 8/29/2013 | 300027 - MNA DOWNHOLE | |

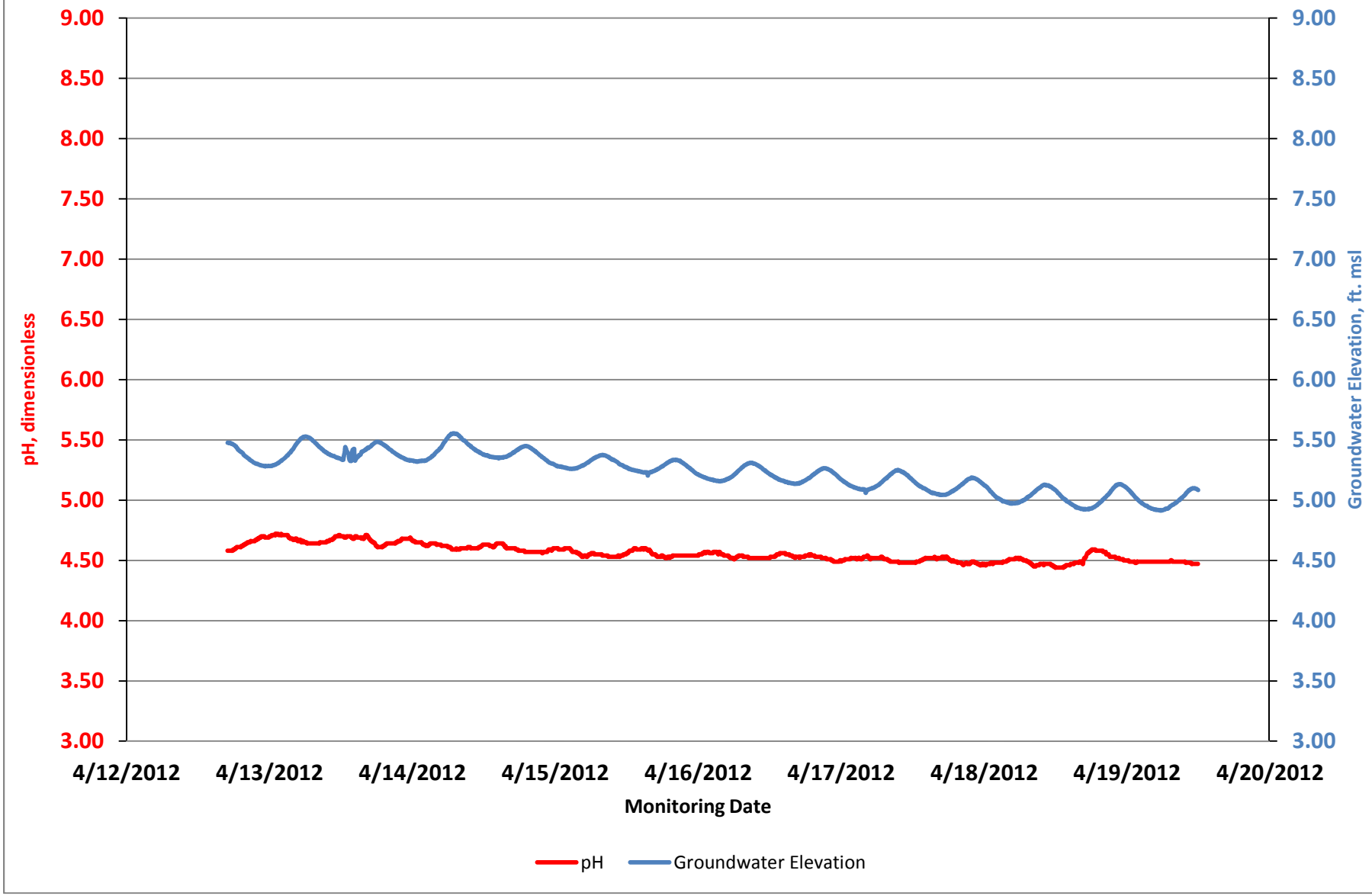
# Figure 3-1: pH Variations Relative to Water Table Fluctuations
# PAN-MW-9



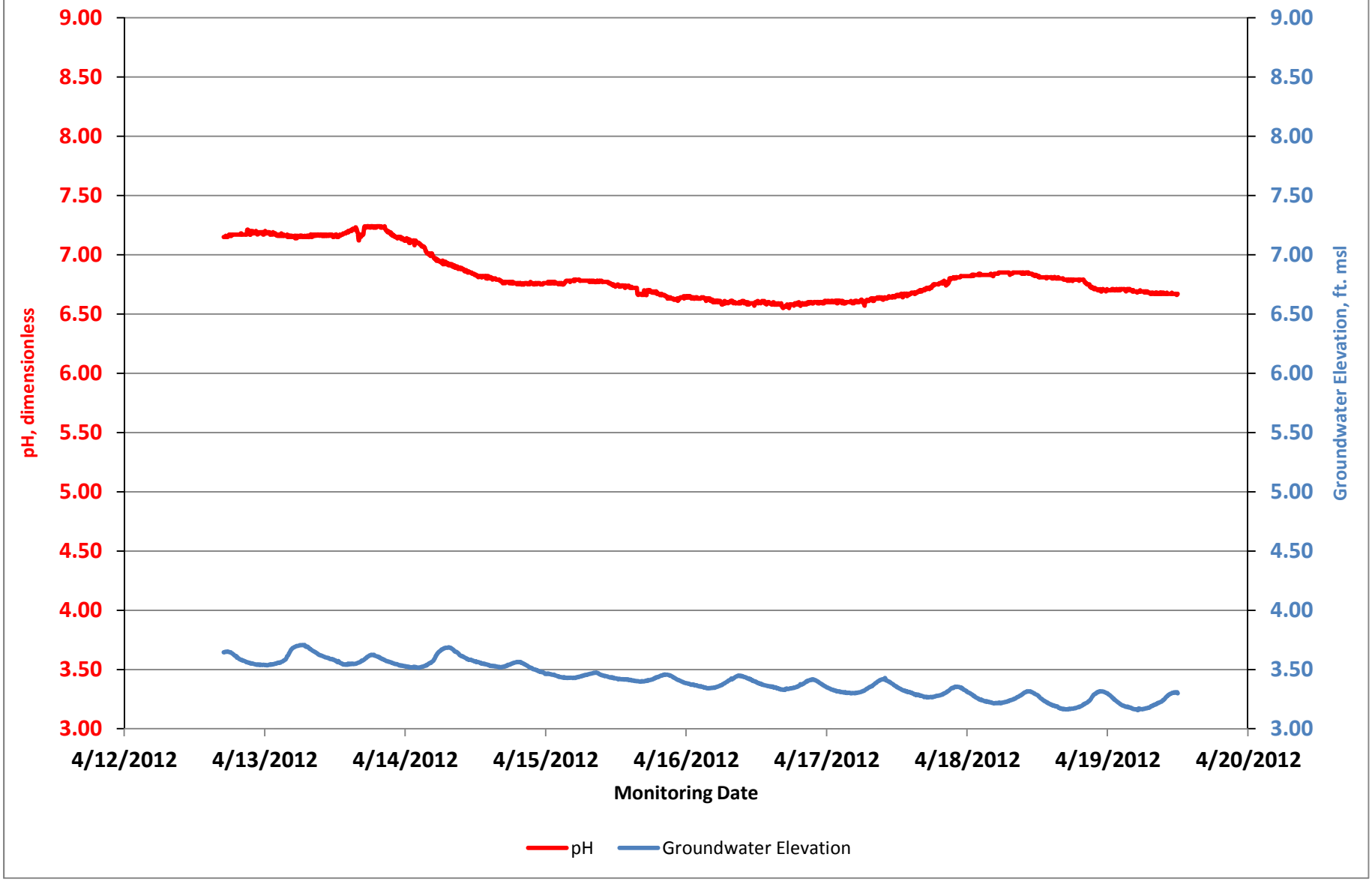
# Figure 3-2: pH Variations Relative to Water Table Fluctuations
# MW-33



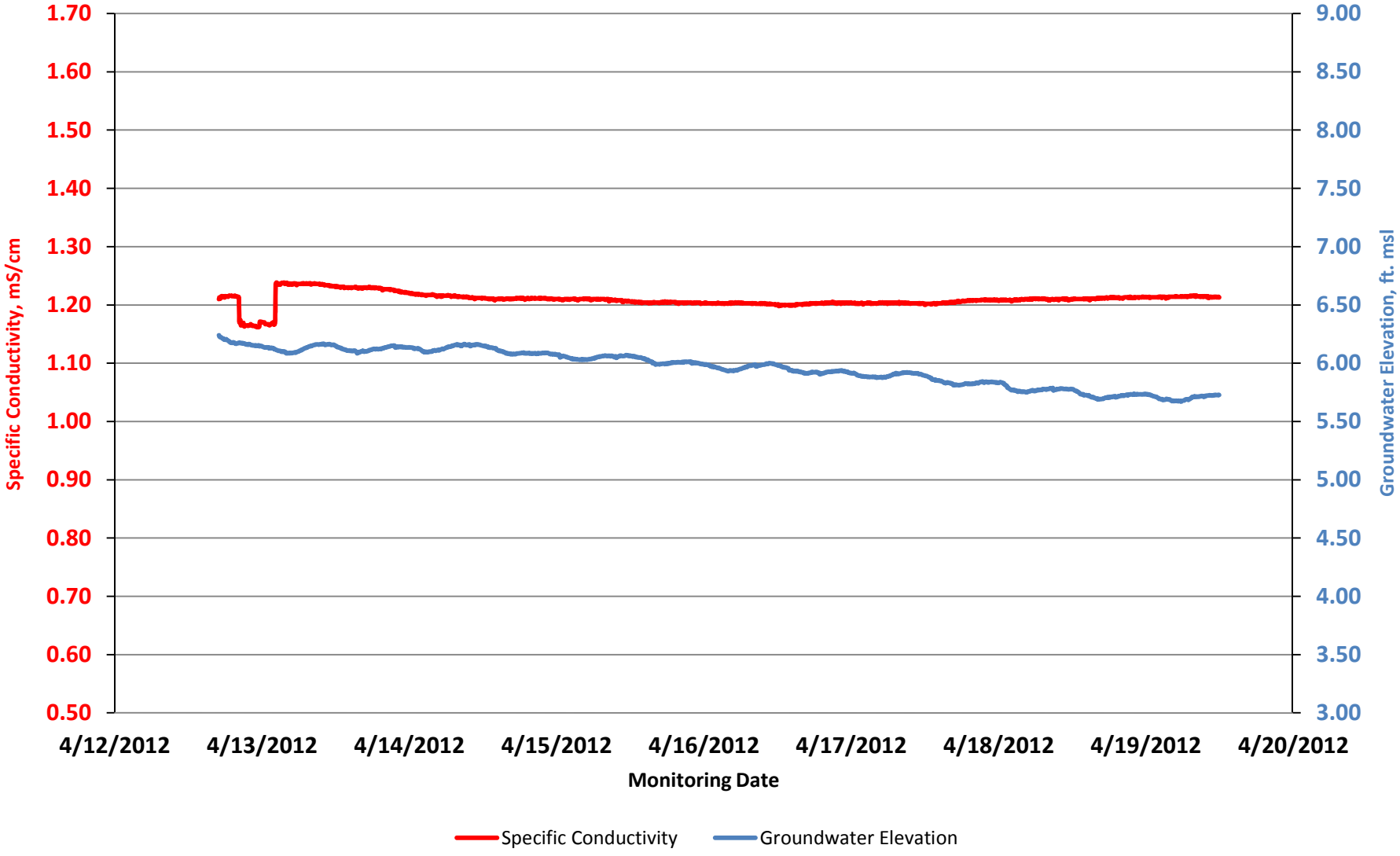
## Figure 3-3: pH Variations Relative to Water Table Fluctuations
## MW-32



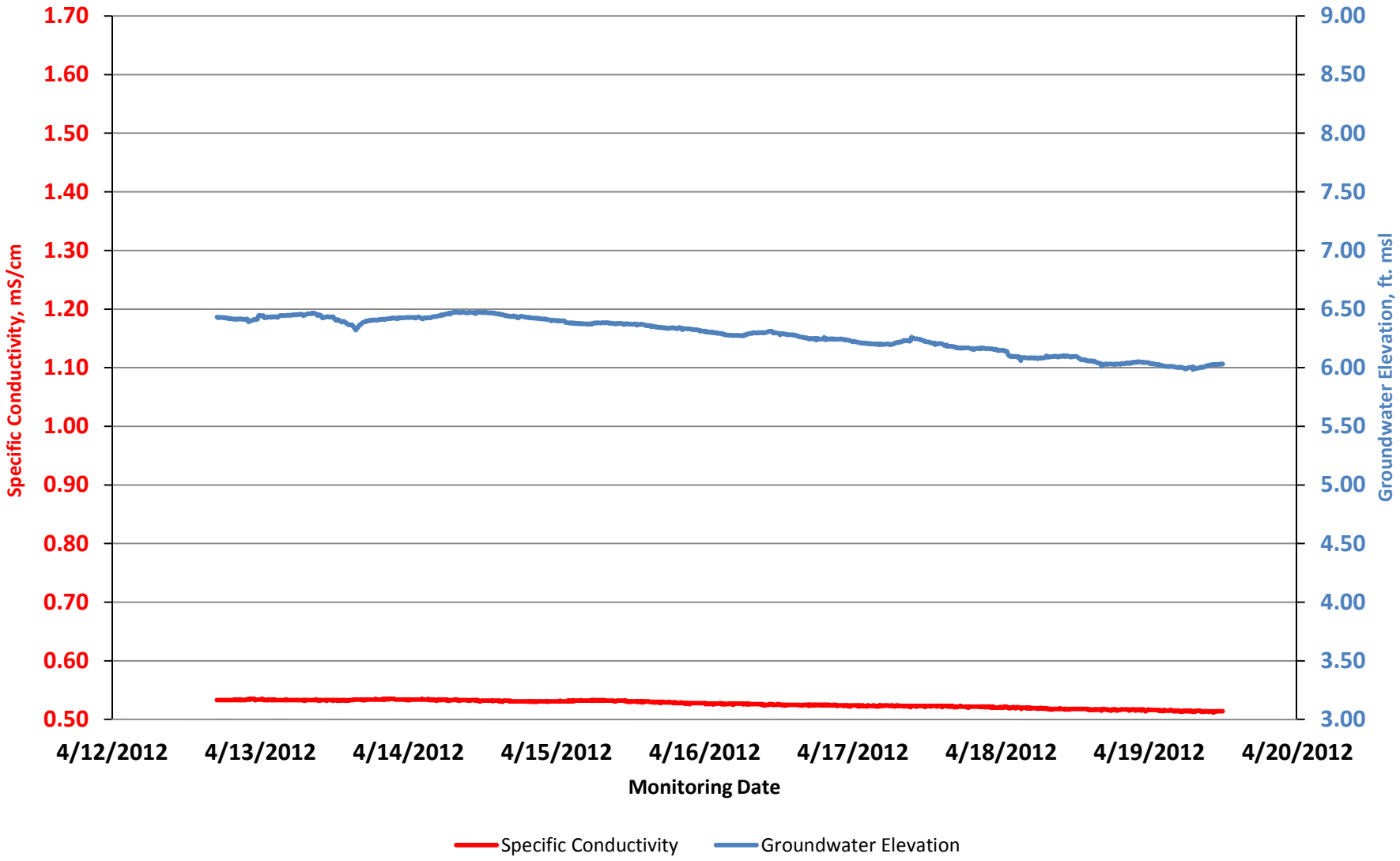
## Figure 3-4: pH Variations Relative to Water Table Fluctuations
## MW-31



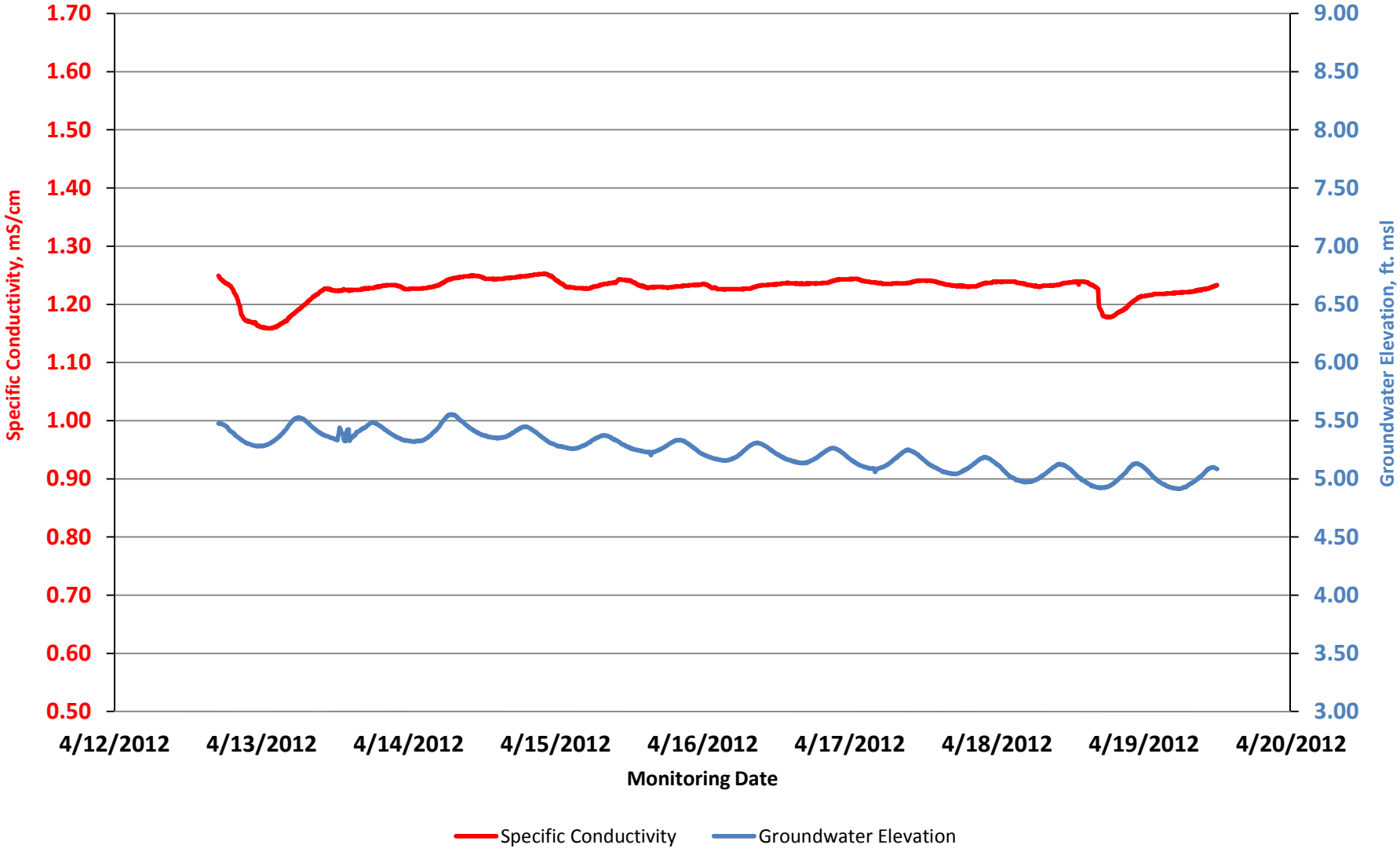
# Figure 3-5: Specific Conductivity Variations Relative to Water Table Fluctuations
## PAN-MW-9



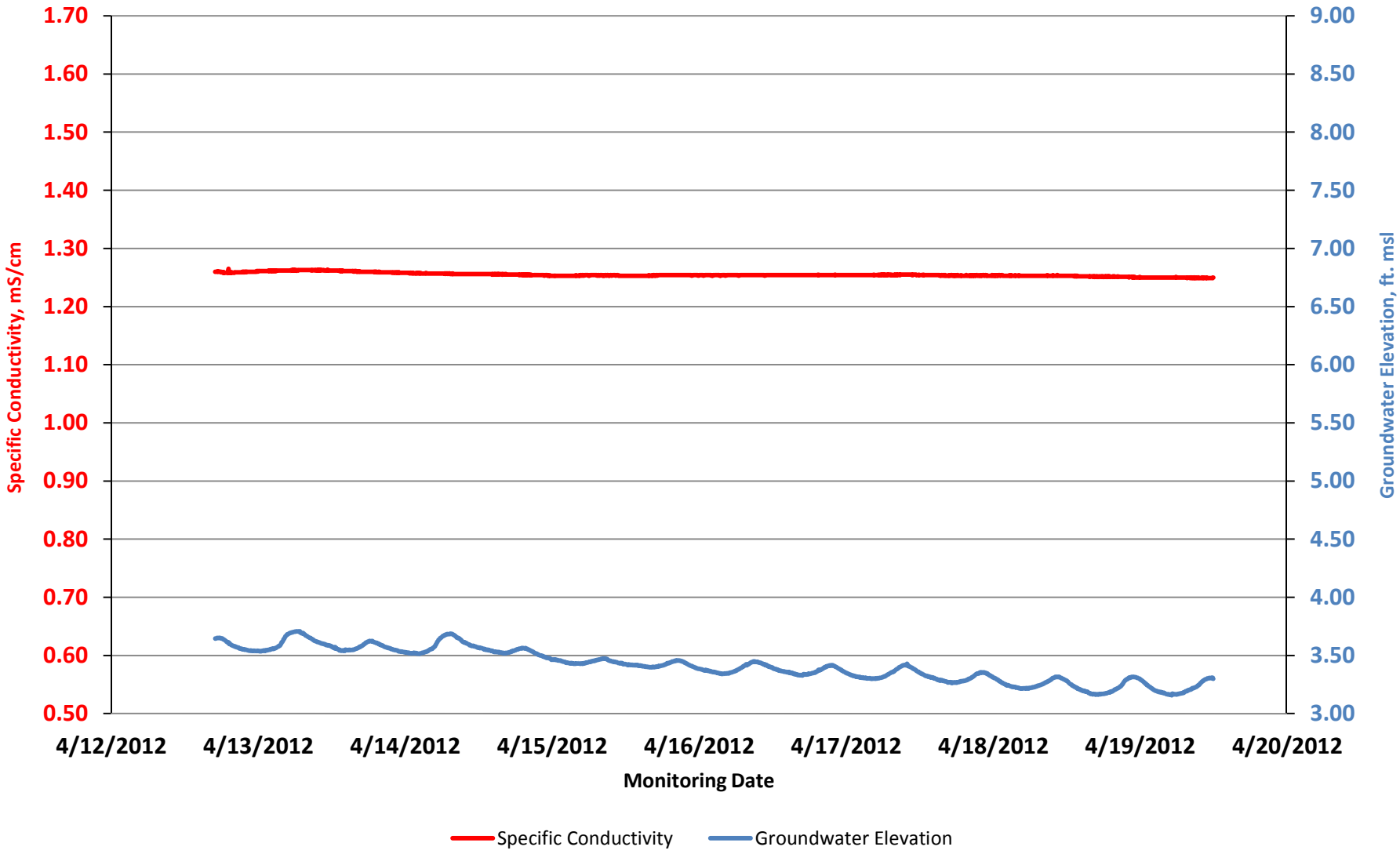
# Figure 3-6: Specific Conductivity Variations Relative to Water Table Fluctuations MW-33



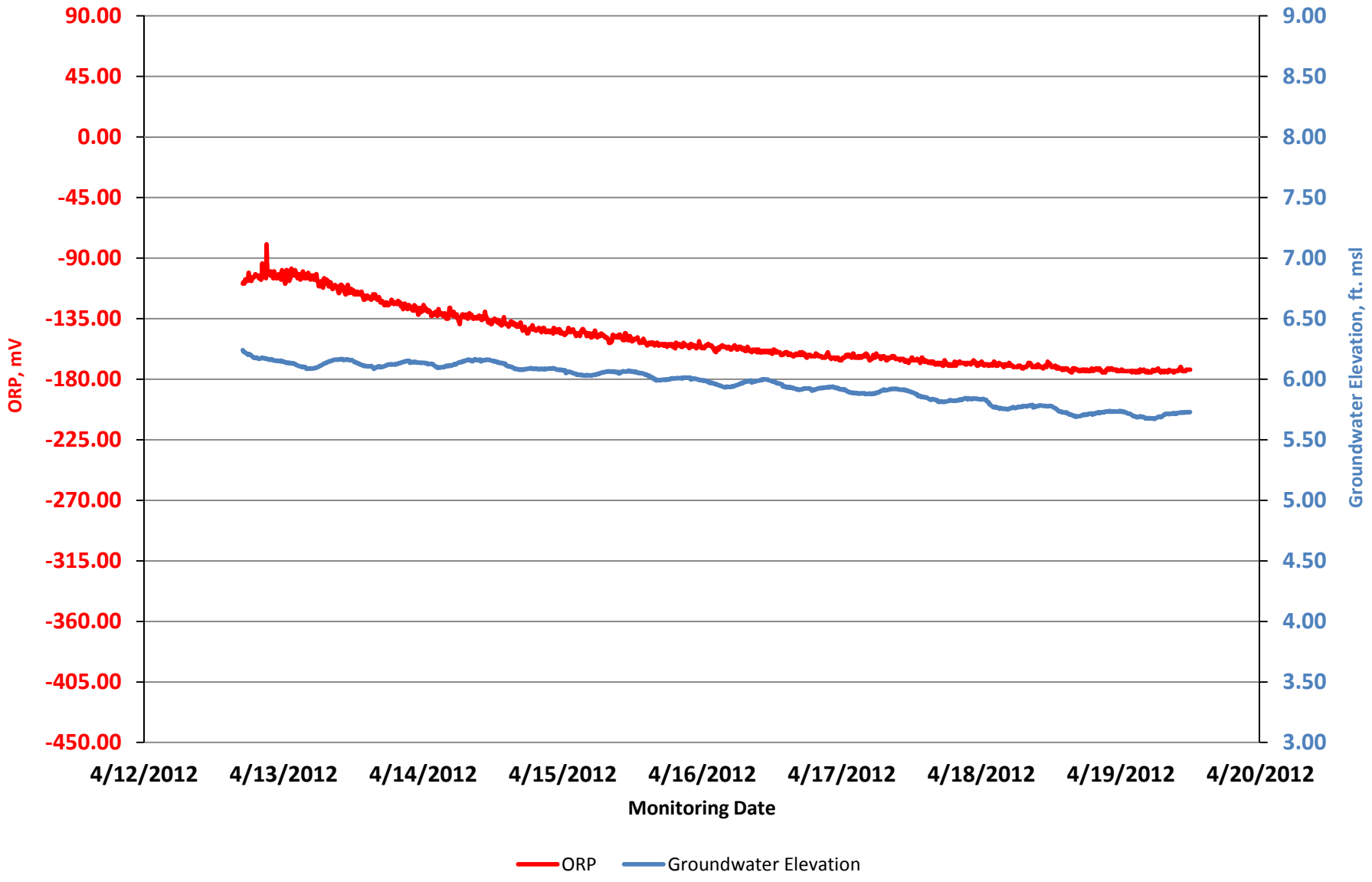
# Figure 3-7: Specific Conductivity Variations Relative to Water Table Fluctuations MW-32



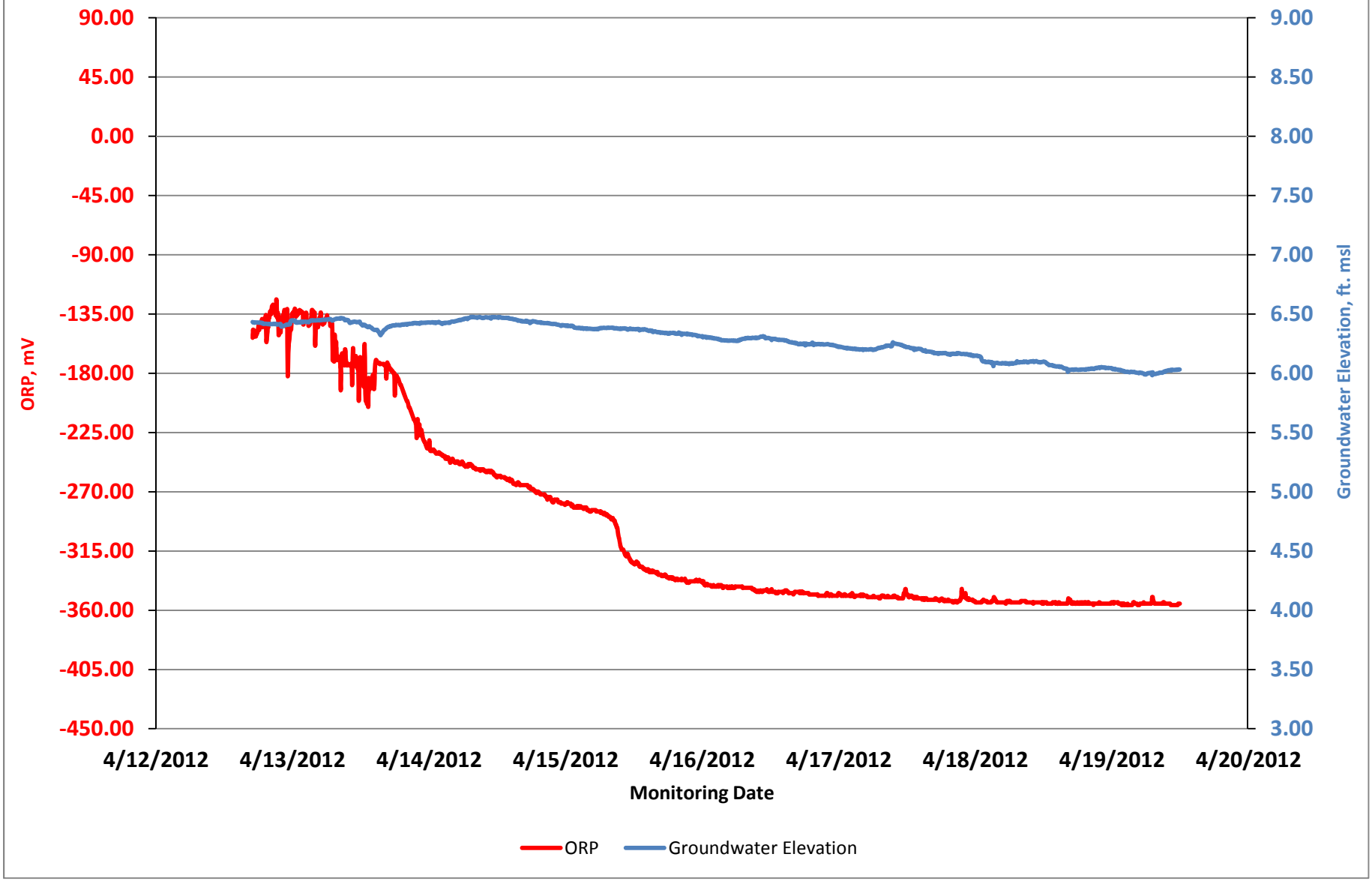
# Figure 3-8: Specific Conductivity Variations Relative to Water Table Fluctuations MW-31



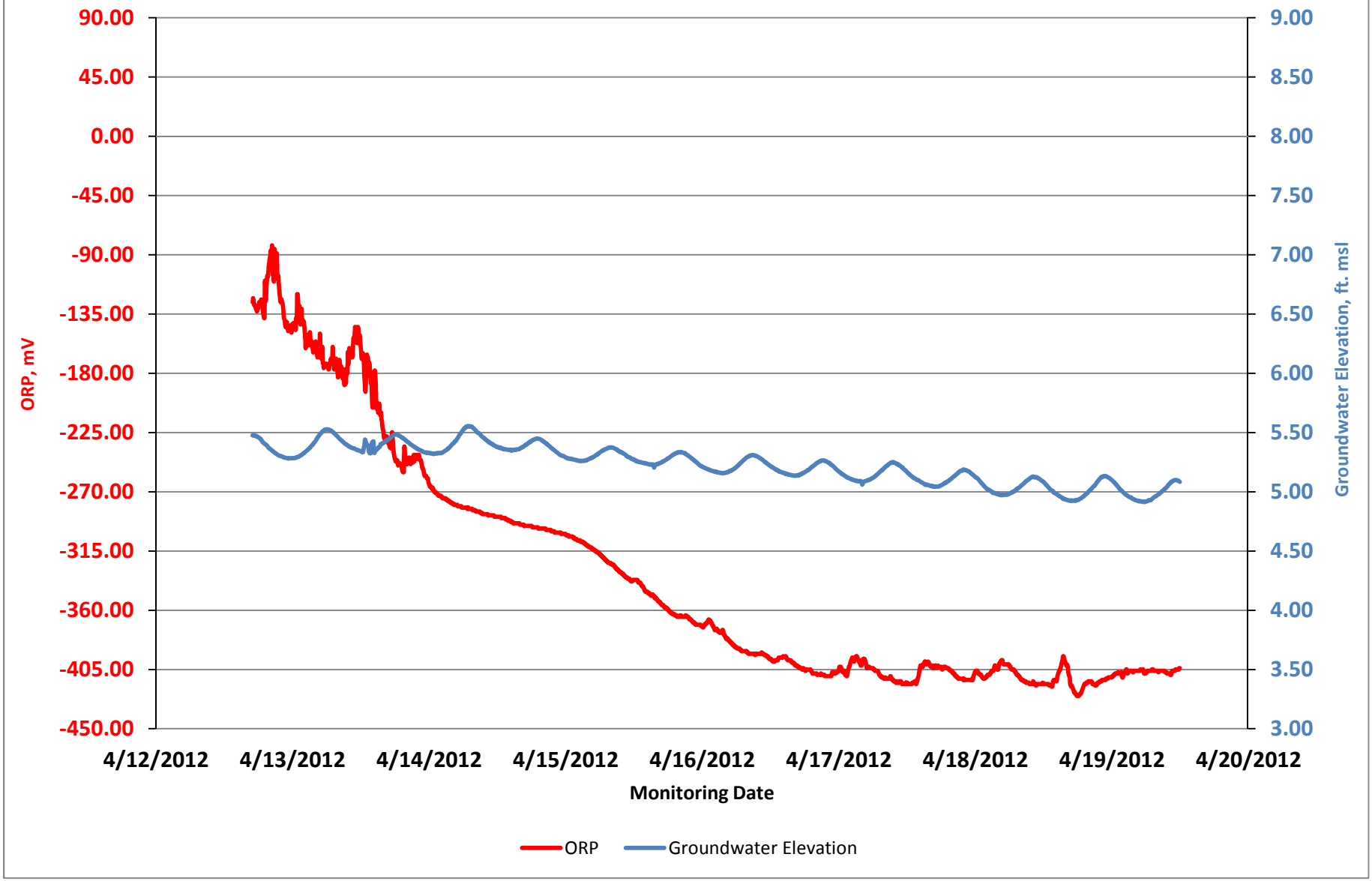
## Figure 3-9: ORP Variations Relative to Water Table Fluctuations
## PAN-MW-9



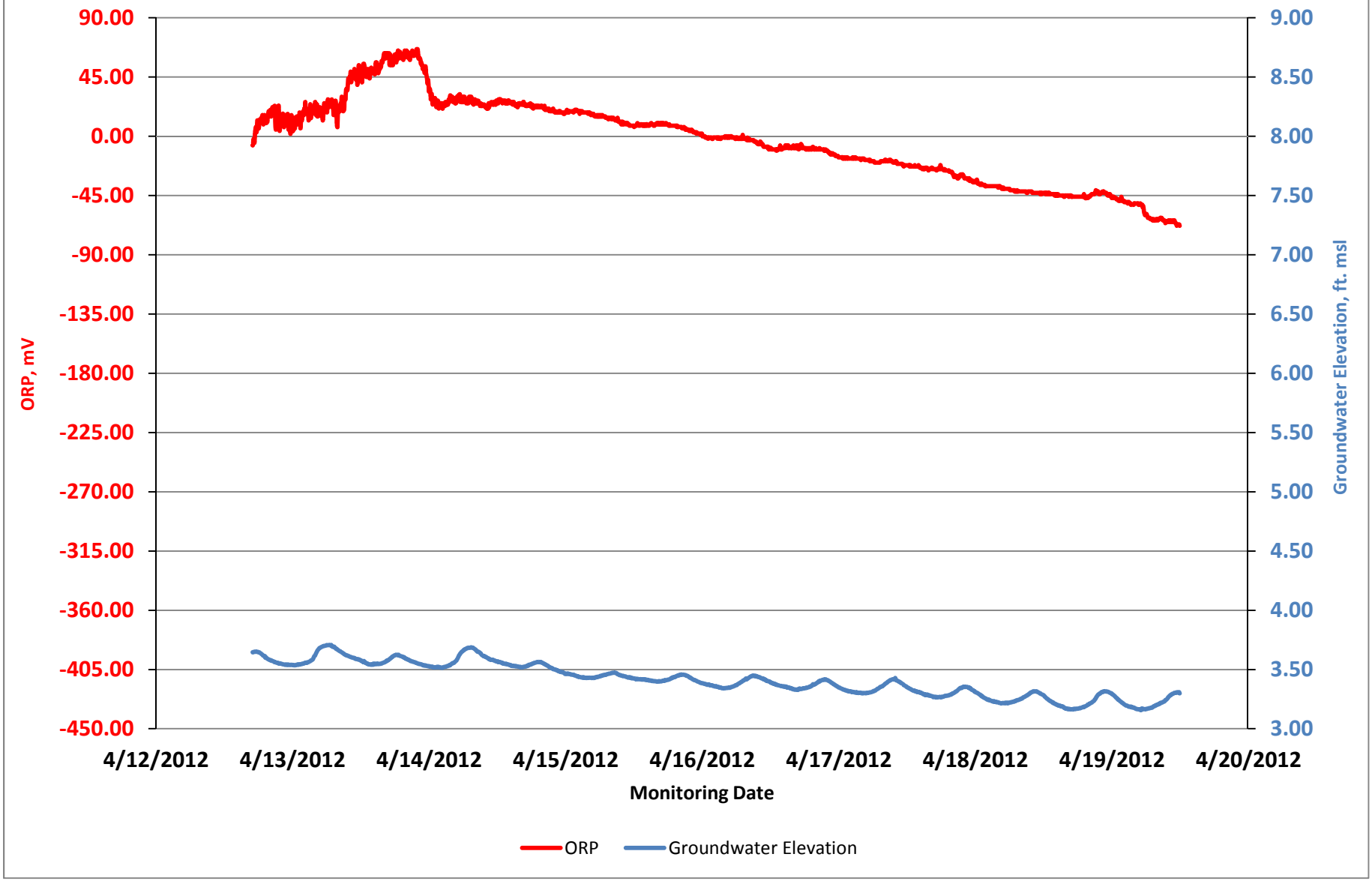
## Figure 3-10: ORP Variations Relative to Water Table Fluctuations
## MW-33



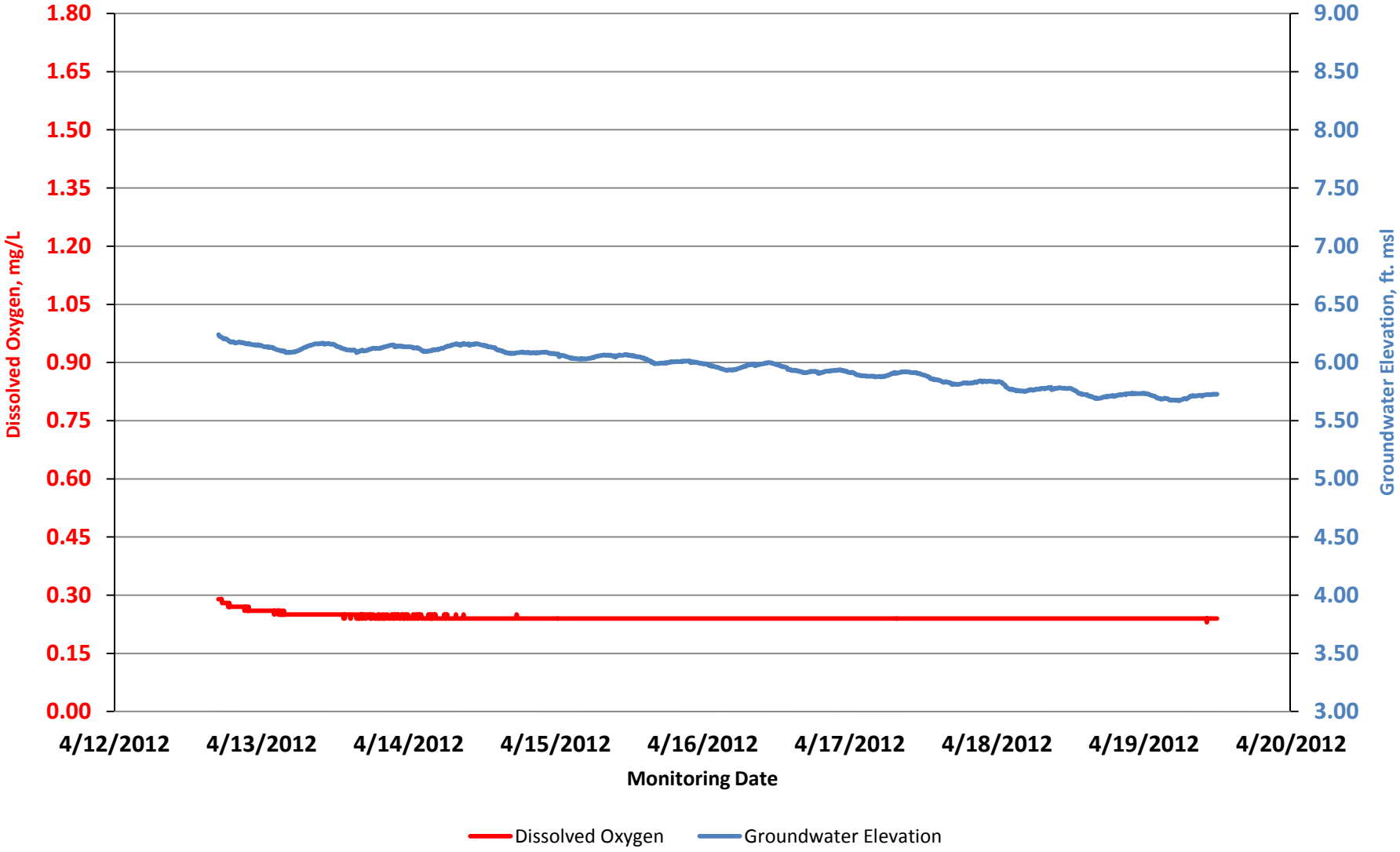
## Figure 3-11: ORP Variations Relative to Water Table Fluctuations
## MW-32



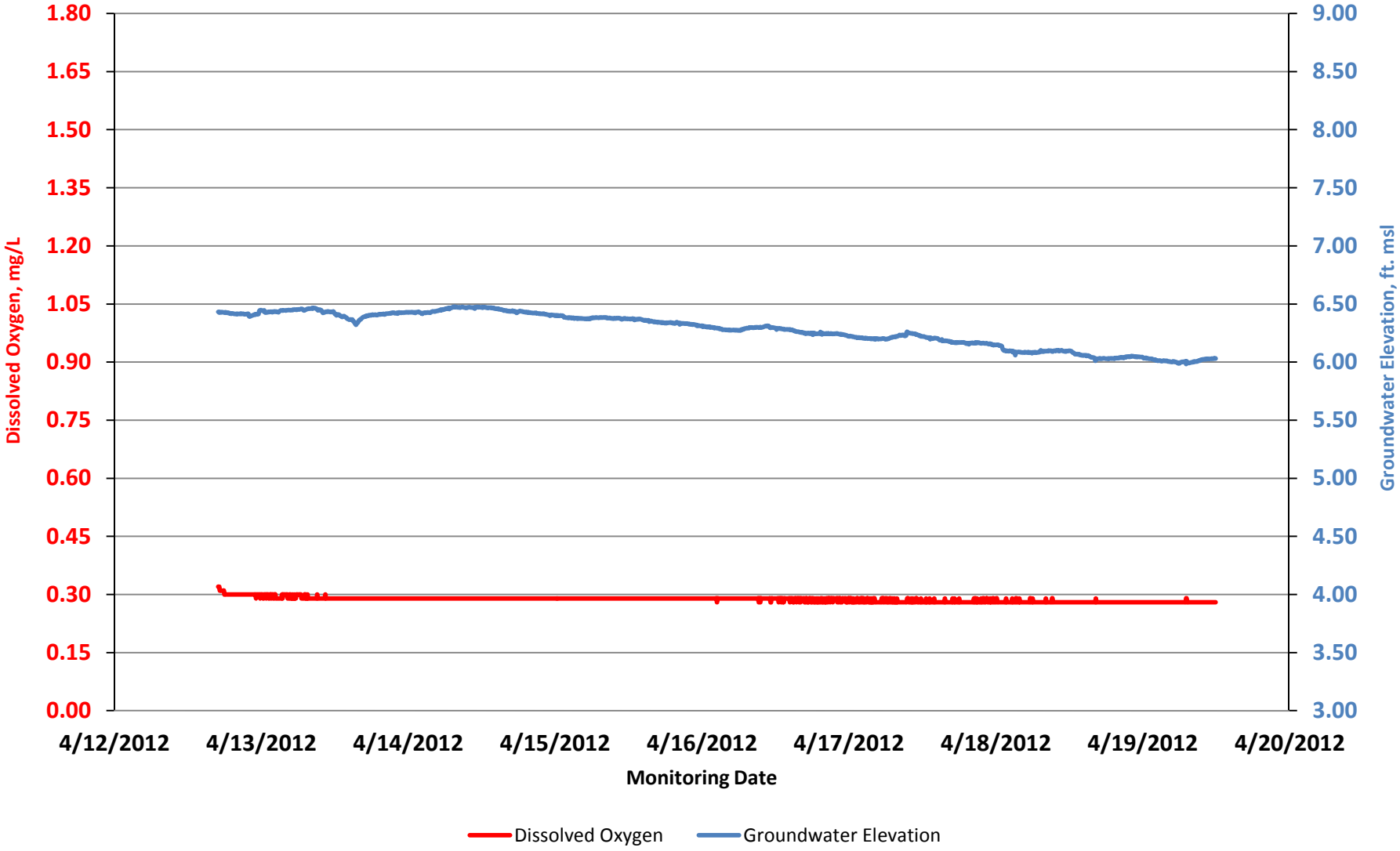
## Figure 3-12: ORP Variations Relative to Water Table Fluctuations
## MW-31



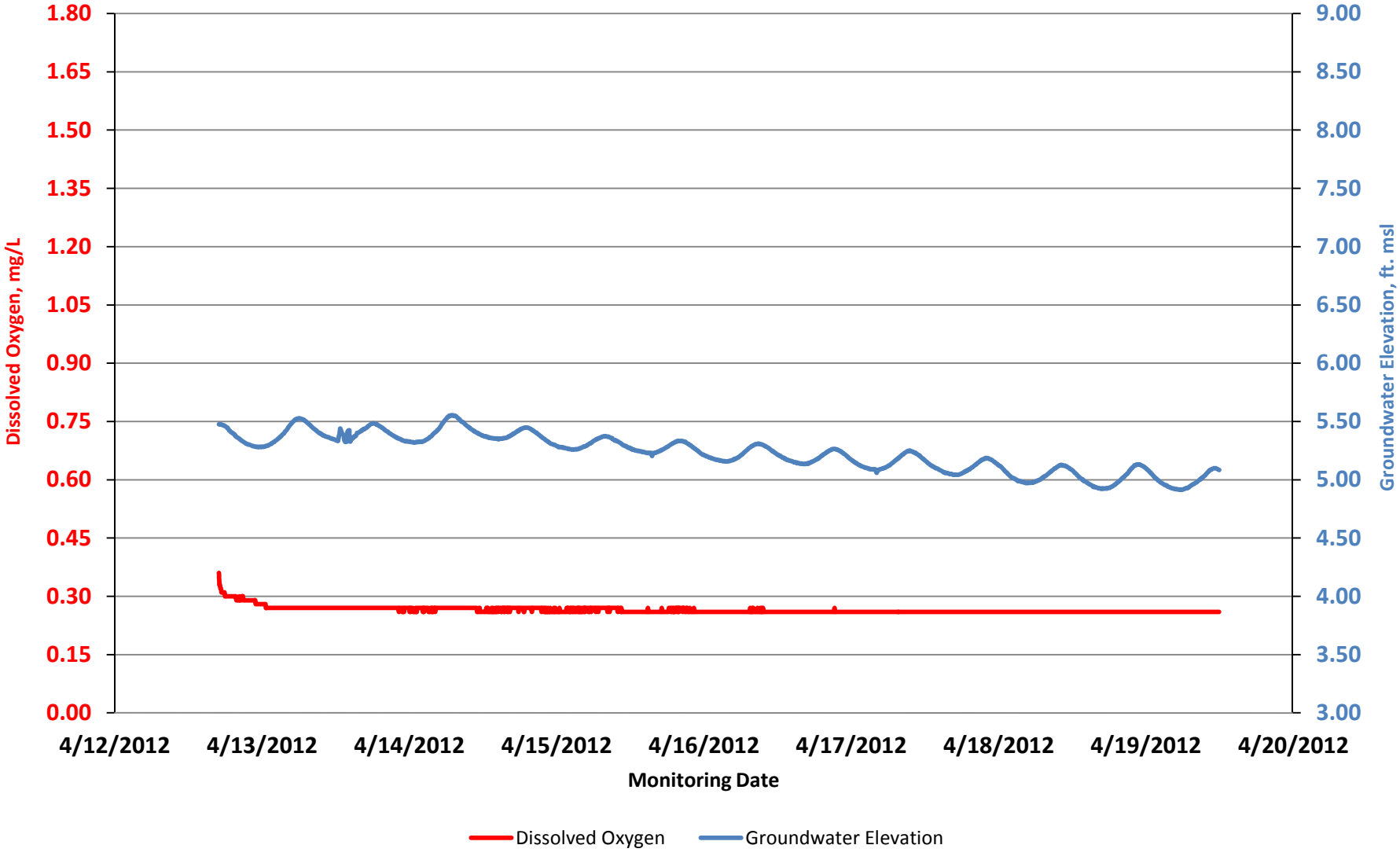
# Figure 3-13: Dissolved Oxygen Variations Relative to Water Table Fluctuations
## PAN-MW-9



# Figure 3-14: Dissolved Oxygen Variations Relative to Water Table Fluctuations MW-33



# Figure 3-15: Dissolved Oxygen Variations Relative to Water Table Fluctuations MW-32



# Figure 3-16: Dissolved Oxygen Variations Relative to Water Table Fluctuations MW-31

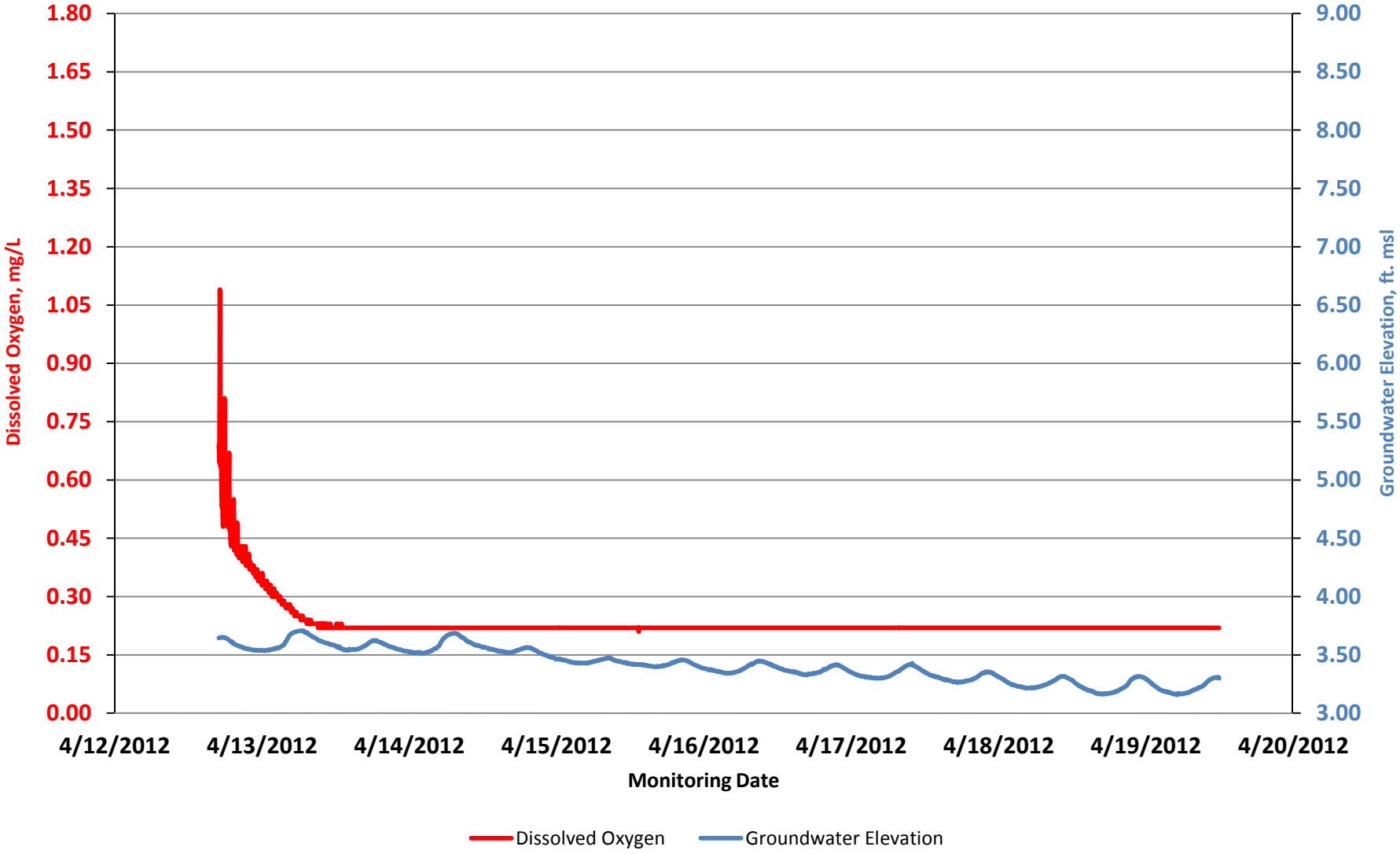


**Figure 3-17: Temperature Variations Relative to Water Table Fluctuations**
**PAN-MW-9**

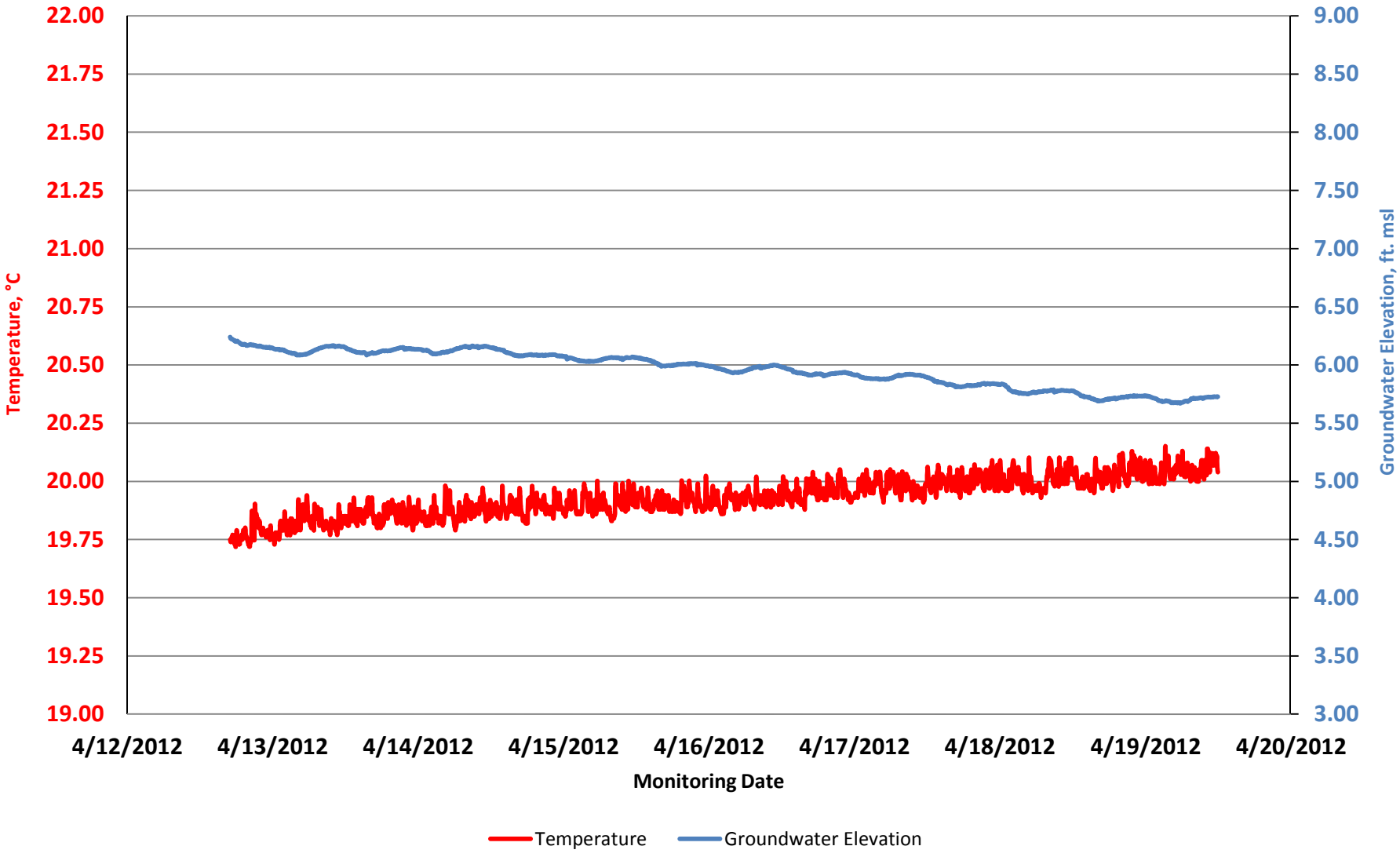


**Figure 3-18: Temperature Variations Relative to Water Table Fluctuations**
**MW-33**

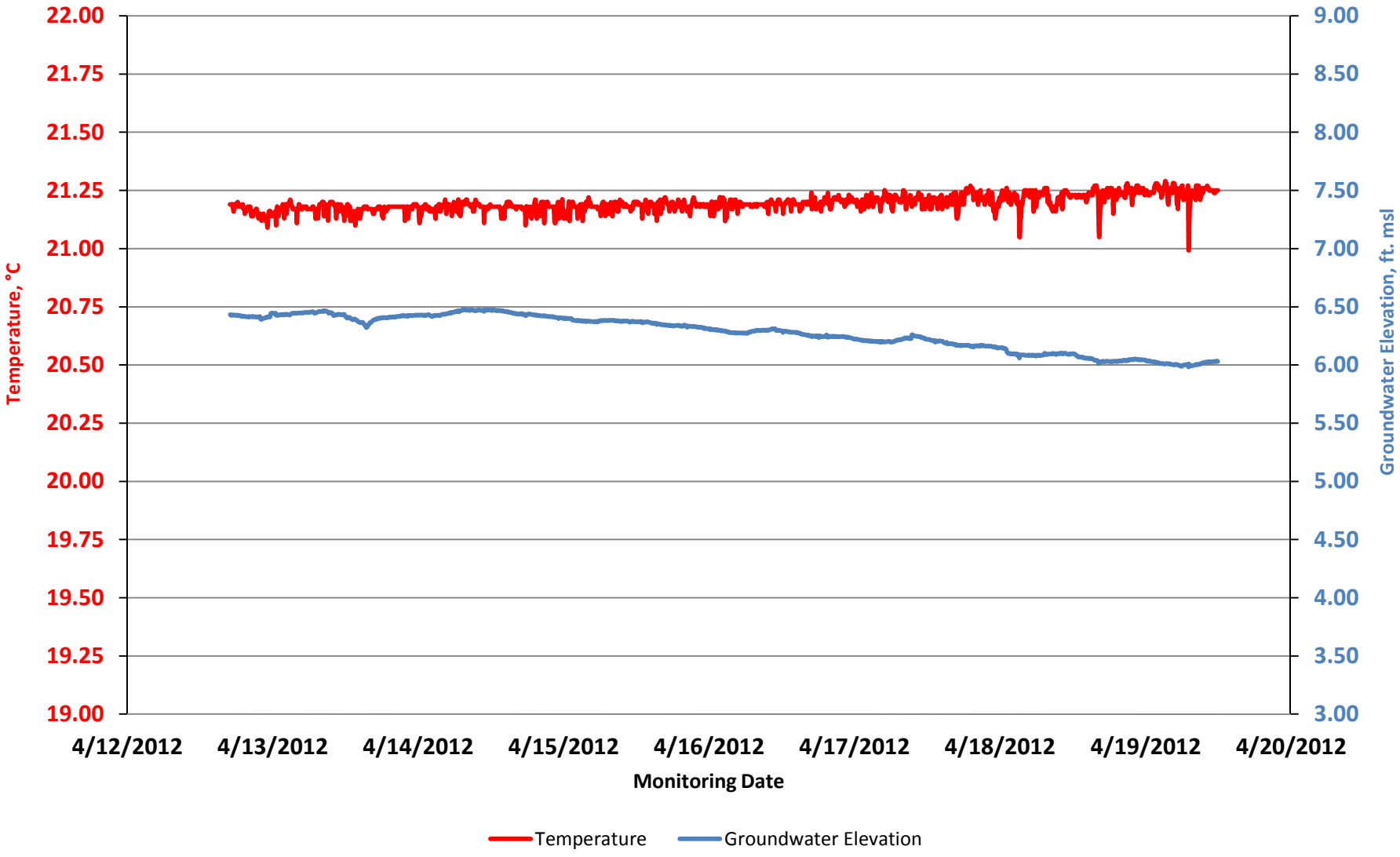
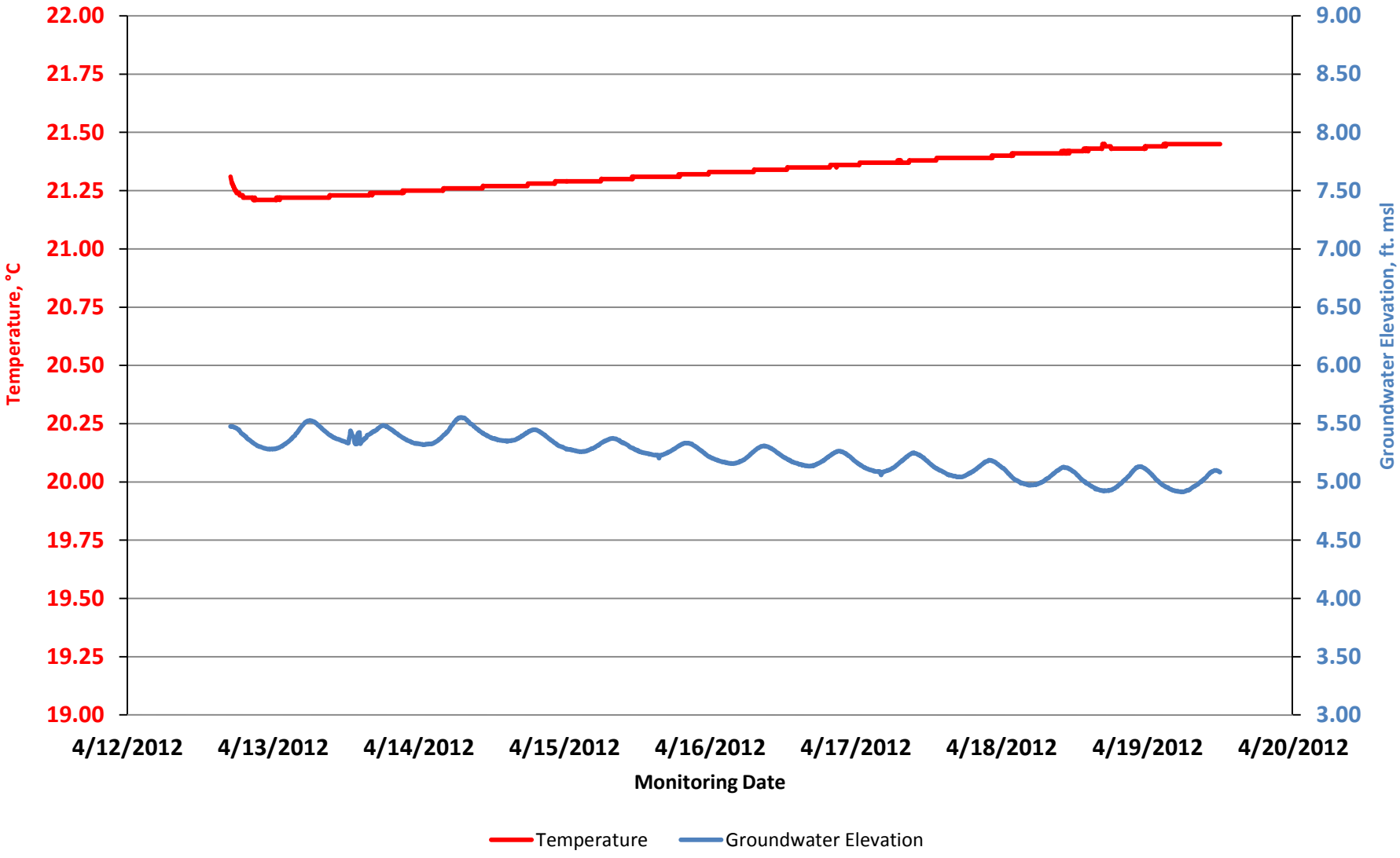
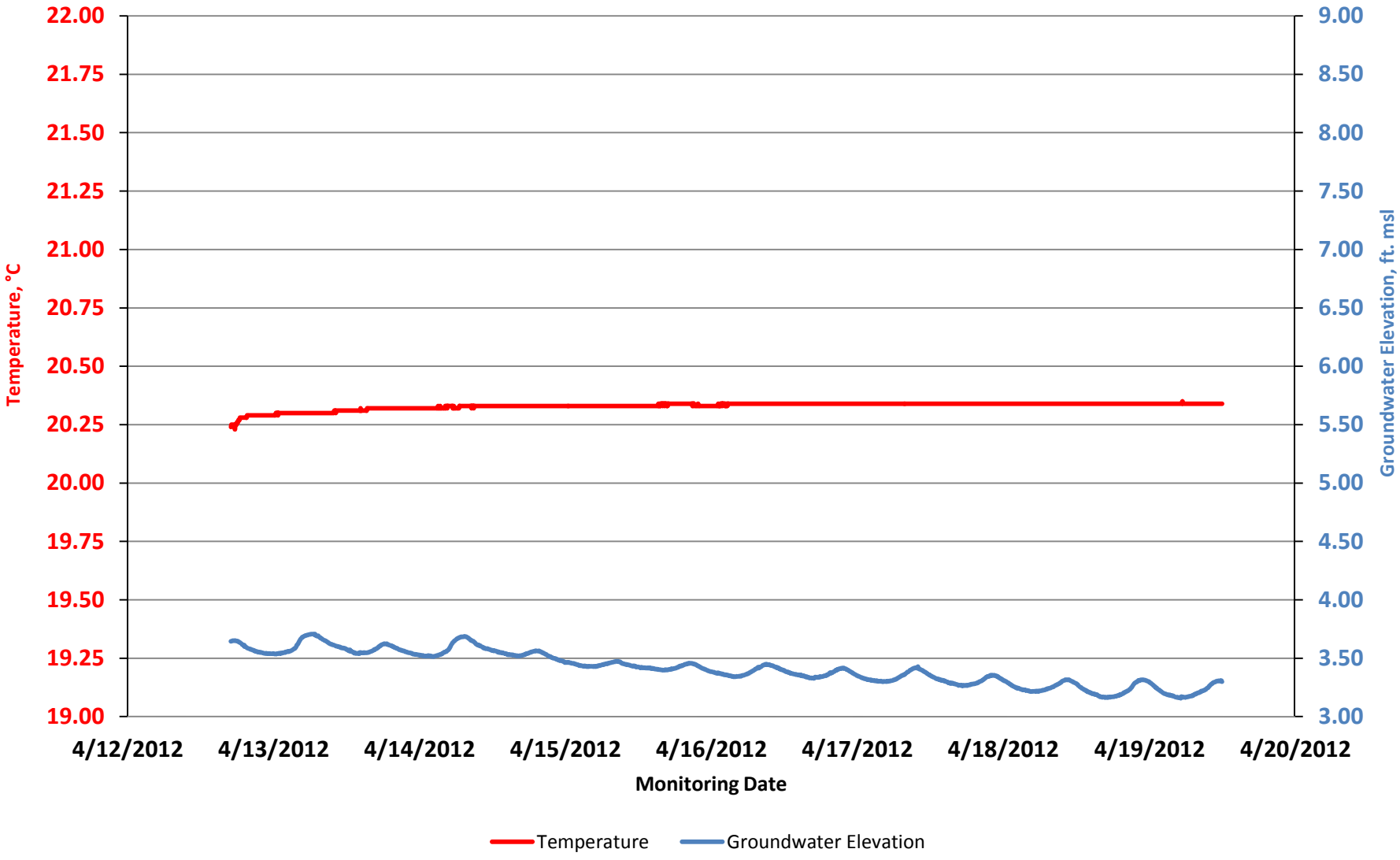


**Figure 3-19: Temperature Variations Relative to Water Table Fluctuations**
**MW-32**



# Figure 3-20: Temperature Variations Relative to Water Table Fluctuations
# MW-31



# ATTACHMENT A

VOPAK-5-MW-31

| Date | Time | Temp | SpCond | PressureA | Depth | pH | pHmV | ORP | ODO% | ODO Conc |
|---|---|---|---|---|---|---|---|---|---|---|
| M/D/Y | hh:mm:ss | C | mS/cm | psia | ft | | mV | mV | % | mg/L |
| 4/12/2012 | 13:30:24 | 23.4 | 0.001 | 14.21 | 1.499 | 6.84 | 39.7 | 85 | 101.9 | 8.68 |
| 4/12/2012 | 13:35:24 | 23.58 | 0.001 | 14.21 | 1.507 | 6.44 | 62.9 | 96 | 101.6 | 8.62 |
| 4/12/2012 | 13:40:24 | 23.54 | 0.002 | 14.21 | 1.506 | 6.49 | 59.8 | 97 | 101.4 | 8.61 |
| 4/12/2012 | 13:45:24 | 23.52 | 0.002 | 14.21 | 1.504 | 6.51 | 59.1 | 97 | 101.8 | 8.65 |
| 4/12/2012 | 13:50:24 | 23.52 | 0.002 | 14.21 | 1.504 | 6.51 | 58.7 | 97 | 101.8 | 8.65 |
| 4/12/2012 | 13:55:24 | 23.55 | 0.002 | 14.21 | 1.506 | 6.51 | 58.7 | 98 | 101.9 | 8.65 |
| 4/12/2012 | 14:00:24 | 23.52 | 0.002 | 14.21 | 1.509 | 6.59 | 54.3 | 98 | 101.7 | 8.64 |
| 4/12/2012 | 14:05:24 | 23.6 | 0.002 | 14.21 | 1.508 | 6.52 | 58.4 | 99 | 101.9 | 8.64 |
| 4/12/2012 | 14:10:24 | 23.76 | 0.002 | 14.21 | 1.502 | 6.52 | 58.1 | 102 | 102.1 | 8.64 |
| 4/12/2012 | 14:15:24 | 23.94 | 0.001 | 14.21 | 1.503 | 6.52 | 58.2 | 105 | 102.3 | 8.62 |
| 4/12/2012 | 14:20:24 | 24.1 | 0.001 | 14.21 | 1.504 | 6.5 | 59.4 | 107 | 102.5 | 8.61 |
| 4/12/2012 | 14:25:24 | 24.23 | 0.001 | 14.22 | 1.526 | 6.48 | 60.6 | 109 | 102.7 | 8.61 |
| 4/12/2012 | 14:30:24 | 24.32 | 0.001 | 14.21 | 1.504 | 6.46 | 62.1 | 110 | 102.8 | 8.6 |
| 4/12/2012 | 14:35:24 | 24.39 | 0.001 | 14.21 | 1.502 | 6.45 | 62.7 | 111 | 102.9 | 8.6 |
| 4/12/2012 | 14:40:24 | 24.42 | 0.001 | 14.21 | 1.506 | 6.43 | 63.8 | 111 | 102.7 | 8.58 |
| 4/12/2012 | 14:45:24 | 24.47 | 0.001 | 14.21 | 1.501 | 6.42 | 64.3 | 112 | 102.9 | 8.59 |
| 4/12/2012 | 14:50:24 | 23.4 | 0 | 14.21 | 1.498 | 3.41 | 240.9 | 339 | 93.9 | 8 |
| 4/12/2012 | 14:55:24 | 20.48 | 1.26 | 18.97 | 12.514 | 6.71 | 46.8 | 33 | 11.5 | 1.03 |
| 4/12/2012 | 15:00:24 | 20.52 | 1.261 | 18.95 | 12.458 | 6.77 | 43.4 | 15 | 15.5 | 1.39 |
| 4/12/2012 | 15:05:24 | 20.48 | 1.261 | 18.94 | 12.45 | 6.9 | 36.2 | 4 | 11.4 | 1.03 |
| 4/12/2012 | 15:10:24 | 20.44 | 1.261 | 18.94 | 12.443 | 6.97 | 32.2 | -1 | 20.9 | 1.88 |
| 4/12/2012 | 15:15:24 | 20.42 | 1.261 | 18.94 | 12.437 | 7.01 | 29.8 | -7 | 19 | 1.71 |
| 4/12/2012 | 15:20:24 | 20.39 | 1.261 | 18.94 | 12.435 | 7.03 | 28.3 | -7 | 39.2 | 3.53 |
| 4/12/2012 | 15:25:24 | 20.37 | 1.261 | 18.94 | 12.435 | 7.05 | 27.2 | -8 | 15.4 | 1.38 |
| 4/12/2012 | 15:30:24 | 20.35 | 1.261 | 18.93 | 12.431 | 7.06 | 26.7 | -9 | 17.5 | 1.57 |
| 4/12/2012 | 15:35:24 | 20.33 | 1.261 | 18.93 | 12.433 | 7.07 | 26.1 | -10 | 10.7 | 0.96 |
| 4/12/2012 | 15:40:24 | 20.32 | 1.261 | 18.94 | 12.435 | 7.08 | 25.7 | -14 | 7.7 | 0.7 |
| 4/12/2012 | 15:45:24 | 20.3 | 1.261 | 18.94 | 12.435 | 7.09 | 25.1 | -11 | 8.8 | 0.79 |
| 4/12/2012 | 15:50:24 | 20.29 | 1.261 | 18.94 | 12.441 | 7.1 | 24.6 | -14 | 7.2 | 0.64 |
| 4/12/2012 | 15:55:24 | 20.27 | 1.261 | 18.94 | 12.446 | 7.11 | 24.1 | -12 | 8.5 | 0.77 |
| 4/12/2012 | 16:00:24 | 20.26 | 1.261 | 18.94 | 12.45 | 7.11 | 23.8 | -5 | 6.9 | 0.62 |
| 4/12/2012 | 16:05:24 | 20.26 | 1.261 | 18.94 | 12.45 | 7.12 | 23.4 | -5 | 11.1 | 1 |
| 4/12/2012 | 16:10:24 | 20.25 | 1.261 | 18.94 | 12.452 | 7.12 | 23.2 | -2 | 9.6 | 0.87 |
| 4/12/2012 | 16:15:24 | 20.24 | 1.261 | 18.95 | 12.459 | 7.12 | 22.9 | -1 | 19.3 | 1.74 |
| 4/12/2012 | 16:20:24 | 20.24 | 1.261 | 18.95 | 12.459 | 7.13 | 22.7 | 0 | 8.7 | 0.78 |
| 4/12/2012 | 16:25:24 | 20.24 | 1.261 | 18.95 | 12.462 | 7.13 | 22.5 | -4 | 10.2 | 0.92 |
| 4/12/2012 | 16:30:24 | 20.23 | 1.261 | 18.95 | 12.467 | 7.14 | 22.3 | -6 | 6.8 | 0.62 |
| 4/12/2012 | 16:35:24 | 20.22 | 1.261 | 18.95 | 12.47 | 7.14 | 22.2 | -6 | 5.8 | 0.52 |
| 4/12/2012 | 16:40:24 | 20.23 | 1.261 | 18.95 | 12.469 | 7.14 | 22.2 | -1 | 6.3 | 0.57 |
| 4/12/2012 | 16:45:24 | 20.24 | 1.26 | 18.95 | 12.472 | 7.14 | 22.1 | -2 | 5.6 | 0.5 |
| 4/12/2012 | 16:50:24 | 20.25 | 1.26 | 18.95 | 12.475 | 7.14 | 22 | -3 | 6.6 | 0.59 |
| 4/12/2012 | 16:55:24 | 20.24 | 1.26 | 18.95 | 12.479 | 7.15 | 21.4 | -10 | 5.8 | 0.53 |
| 4/12/2012 | 17:00:24 | 20.24 | 1.26 | 18.95 | 12.475 | 7.15 | 21.4 | -7 | 7.7 | 0.69 |
| 4/12/2012 | 17:05:24 | 20.25 | 1.26 | 18.95 | 12.477 | 7.15 | 21.5 | -6 | 7.2 | 0.65 |
| 4/12/2012 | 17:10:24 | 20.25 | 1.26 | 18.95 | 12.477 | 7.15 | 21.4 | -2 | 12.1 | 1.09 |
| 4/12/2012 | 17:15:24 | 20.25 | 1.26 | 18.95 | 12.479 | 7.15 | 21.5 | -5 | 7.1 | 0.64 |
| 4/12/2012 | 17:20:24 | 20.25 | 1.26 | 18.96 | 12.48 | 7.16 | 21.1 | -5 | 7.7 | 0.7 |
| 4/12/2012 | 17:25:24 | 20.25 | 1.261 | 18.96 | 12.481 | 7.15 | 21.5 | 2 | 6.3 | 0.57 |
| 4/12/2012 | 17:30:24 | 20.25 | 1.26 | 18.96 | 12.481 | 7.15 | 21.4 | 5 | 5.9 | 0.53 |
| 4/12/2012 | 17:35:24 | 20.24 | 1.26 | 18.96 | 12.481 | 7.15 | 21.3 | 7 | 6 | 0.54 |
| 4/12/2012 | 17:40:24 | 20.23 | 1.26 | 18.96 | 12.48 | 7.15 | 21.2 | 3 | 5.3 | 0.48 |
| 4/12/2012 | 17:45:24 | 20.25 | 1.26 | 18.96 | 12.481 | 7.16 | 21 | 4 | 6.2 | 0.56 |
| 4/12/2012 | 17:50:24 | 20.25 | 1.26 | 18.95 | 12.479 | 7.16 | 20.8 | 12 | 6.3 | 0.57 |
| 4/12/2012 | 17:55:24 | 20.25 | 1.26 | 18.95 | 12.477 | 7.17 | 20.6 | 12 | 9 | 0.81 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/12/2012 | 18:00:24 | 20.26 | 1.259 | 18.95 | 12.476 | 7.16 | 20.7 | 8 | 6.5 | 0.59 |
| 4/12/2012 | 18:05:24 | 20.26 | 1.259 | 18.95 | 12.475 | 7.17 | 20.5 | 6 | 7.1 | 0.64 |
| 4/12/2012 | 18:10:24 | 20.26 | 1.259 | 18.95 | 12.476 | 7.16 | 20.6 | 10 | 5.8 | 0.52 |
| 4/12/2012 | 18:15:24 | 20.27 | 1.259 | 18.95 | 12.472 | 7.16 | 20.7 | 12 | 5.5 | 0.49 |
| 4/12/2012 | 18:20:24 | 20.27 | 1.258 | 18.95 | 12.469 | 7.16 | 20.7 | 13 | 5.5 | 0.5 |
| 4/12/2012 | 18:25:24 | 20.27 | 1.259 | 18.95 | 12.466 | 7.17 | 20.5 | 13 | 5.3 | 0.48 |
| 4/12/2012 | 18:30:24 | 20.28 | 1.258 | 18.95 | 12.464 | 7.17 | 20.5 | 13 | 5.7 | 0.52 |
| 4/12/2012 | 18:35:24 | 20.28 | 1.258 | 18.95 | 12.46 | 7.17 | 20.4 | 14 | 5.5 | 0.5 |
| 4/12/2012 | 18:40:24 | 20.28 | 1.258 | 18.95 | 12.457 | 7.17 | 20.2 | 15 | 7.4 | 0.67 |
| 4/12/2012 | 18:45:24 | 20.28 | 1.258 | 18.94 | 12.454 | 7.17 | 20.4 | 16 | 5.2 | 0.47 |
| 4/12/2012 | 18:50:24 | 20.28 | 1.258 | 18.94 | 12.448 | 7.17 | 20.3 | 11 | 5.2 | 0.47 |
| 4/12/2012 | 18:55:24 | 20.28 | 1.258 | 18.94 | 12.445 | 7.17 | 20.3 | 9 | 4.8 | 0.44 |
| 4/12/2012 | 19:00:24 | 20.28 | 1.258 | 18.94 | 12.442 | 7.17 | 20.4 | 14 | 4.8 | 0.43 |
| 4/12/2012 | 19:05:24 | 20.28 | 1.258 | 18.94 | 12.44 | 7.17 | 20.3 | 16 | 4.9 | 0.44 |
| 4/12/2012 | 19:10:24 | 20.28 | 1.265 | 18.94 | 12.443 | 7.17 | 20.3 | 12 | 4.8 | 0.43 |
| 4/12/2012 | 19:15:24 | 20.28 | 1.258 | 18.93 | 12.43 | 7.17 | 20.4 | 10 | 5.3 | 0.48 |
| 4/12/2012 | 19:20:24 | 20.28 | 1.259 | 18.93 | 12.432 | 7.17 | 20.4 | 10 | 5 | 0.45 |
| 4/12/2012 | 19:25:24 | 20.28 | 1.259 | 18.93 | 12.428 | 7.17 | 20.1 | 10 | 6.1 | 0.55 |
| 4/12/2012 | 19:30:24 | 20.28 | 1.258 | 18.93 | 12.425 | 7.17 | 20.3 | 13 | 4.7 | 0.42 |
| 4/12/2012 | 19:35:24 | 20.28 | 1.259 | 18.93 | 12.421 | 7.17 | 20.2 | 11 | 4.7 | 0.43 |
| 4/12/2012 | 19:40:24 | 20.29 | 1.259 | 18.93 | 12.419 | 7.17 | 20.3 | 15 | 4.6 | 0.42 |
| 4/12/2012 | 19:45:24 | 20.29 | 1.258 | 18.93 | 12.416 | 7.17 | 20.2 | 17 | 4.7 | 0.42 |
| 4/12/2012 | 19:50:24 | 20.29 | 1.258 | 18.93 | 12.414 | 7.17 | 20.1 | 19 | 4.8 | 0.43 |
| 4/12/2012 | 19:55:24 | 20.29 | 1.258 | 18.93 | 12.413 | 7.18 | 20 | 19 | 4.6 | 0.41 |
| 4/12/2012 | 20:00:24 | 20.29 | 1.258 | 18.93 | 12.411 | 7.18 | 20 | 15 | 5.4 | 0.49 |
| 4/12/2012 | 20:05:24 | 20.29 | 1.258 | 18.92 | 12.409 | 7.17 | 20.1 | 18 | 4.6 | 0.42 |
| 4/12/2012 | 20:10:24 | 20.29 | 1.259 | 18.92 | 12.407 | 7.17 | 20.3 | 20 | 4.7 | 0.43 |
| 4/12/2012 | 20:15:24 | 20.29 | 1.259 | 18.92 | 12.408 | 7.17 | 20.3 | 15 | 4.5 | 0.4 |
| 4/12/2012 | 20:20:24 | 20.29 | 1.259 | 18.92 | 12.406 | 7.17 | 20.1 | 19 | 4.6 | 0.41 |
| 4/12/2012 | 20:25:24 | 20.29 | 1.259 | 18.92 | 12.403 | 7.17 | 20.2 | 20 | 4.5 | 0.41 |
| 4/12/2012 | 20:30:24 | 20.29 | 1.259 | 18.92 | 12.402 | 7.17 | 20.2 | 22 | 4.4 | 0.4 |
| 4/12/2012 | 20:35:24 | 20.29 | 1.259 | 18.92 | 12.4 | 7.17 | 20.1 | 17 | 4.7 | 0.42 |
| 4/12/2012 | 20:40:24 | 20.29 | 1.259 | 18.92 | 12.399 | 7.17 | 20.4 | 20 | 4.5 | 0.4 |
| 4/12/2012 | 20:45:24 | 20.29 | 1.259 | 18.92 | 12.396 | 7.17 | 20.1 | 22 | 4.8 | 0.43 |
| 4/12/2012 | 20:50:24 | 20.29 | 1.259 | 18.92 | 12.395 | 7.17 | 20.3 | 23 | 4.3 | 0.39 |
| 4/12/2012 | 20:55:24 | 20.29 | 1.259 | 18.92 | 12.391 | 7.17 | 20.3 | 23 | 4.5 | 0.41 |
| 4/12/2012 | 21:00:24 | 20.29 | 1.259 | 18.92 | 12.392 | 7.21 | 18 | 8 | 4.4 | 0.39 |
| 4/12/2012 | 21:05:24 | 20.29 | 1.259 | 18.92 | 12.39 | 7.21 | 18.1 | 5 | 4.3 | 0.39 |
| 4/12/2012 | 21:10:24 | 20.29 | 1.259 | 18.92 | 12.389 | 7.21 | 18.1 | 6 | 4.4 | 0.4 |
| 4/12/2012 | 21:15:24 | 20.29 | 1.259 | 18.92 | 12.387 | 7.18 | 19.8 | 11 | 4.4 | 0.39 |
| 4/12/2012 | 21:20:24 | 20.29 | 1.259 | 18.91 | 12.385 | 7.18 | 20 | 12 | 4.8 | 0.43 |
| 4/12/2012 | 21:25:24 | 20.29 | 1.259 | 18.91 | 12.385 | 7.17 | 20.3 | 18 | 4.2 | 0.38 |
| 4/12/2012 | 21:30:24 | 20.29 | 1.26 | 18.91 | 12.382 | 7.17 | 20.2 | 21 | 4.4 | 0.4 |
| 4/12/2012 | 21:35:24 | 20.29 | 1.26 | 18.91 | 12.383 | 7.17 | 20.4 | 23 | 4.2 | 0.38 |
| 4/12/2012 | 21:40:24 | 20.29 | 1.259 | 18.91 | 12.381 | 7.2 | 18.3 | 6 | 4.2 | 0.38 |
| 4/12/2012 | 21:45:24 | 20.29 | 1.259 | 18.91 | 12.38 | 7.2 | 18.4 | 4 | 4.3 | 0.39 |
| 4/12/2012 | 21:50:24 | 20.29 | 1.26 | 18.91 | 12.382 | 7.2 | 18.8 | 8 | 4.2 | 0.38 |
| 4/12/2012 | 21:55:24 | 20.29 | 1.26 | 18.91 | 12.381 | 7.2 | 18.7 | 8 | 4.6 | 0.41 |
| 4/12/2012 | 22:00:24 | 20.29 | 1.259 | 18.91 | 12.379 | 7.18 | 19.6 | 12 | 4.1 | 0.37 |
| 4/12/2012 | 22:05:24 | 20.29 | 1.26 | 18.91 | 12.378 | 7.19 | 19.3 | 14 | 4.3 | 0.39 |
| 4/12/2012 | 22:10:24 | 20.29 | 1.26 | 18.91 | 12.377 | 7.19 | 19.1 | 13 | 4.1 | 0.37 |
| 4/12/2012 | 22:15:24 | 20.29 | 1.26 | 18.91 | 12.376 | 7.19 | 19.4 | 15 | 4.1 | 0.37 |
| 4/12/2012 | 22:20:24 | 20.29 | 1.26 | 18.91 | 12.374 | 7.18 | 19.5 | 17 | 4.1 | 0.37 |
| 4/12/2012 | 22:25:24 | 20.29 | 1.26 | 18.91 | 12.373 | 7.19 | 19.3 | 11 | 4.1 | 0.37 |
| 4/12/2012 | 22:30:24 | 20.29 | 1.26 | 18.91 | 12.372 | 7.2 | 18.7 | 7 | 4.2 | 0.38 |
| 4/12/2012 | 22:35:24 | 20.29 | 1.26 | 18.91 | 12.371 | 7.18 | 19.5 | 8 | 4 | 0.36 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/12/2012 | 22:40:24 | 20.29 | 1.26 | 18.91 | 12.37 | 7.18 | 19.5 | 11 | 4.2 | 0.38 |
| 4/12/2012 | 22:45:24 | 20.29 | 1.26 | 18.91 | 12.372 | 7.17 | 20.1 | 16 | 4 | 0.36 |
| 4/12/2012 | 22:50:24 | 20.29 | 1.26 | 18.91 | 12.371 | 7.18 | 19.7 | 11 | 3.9 | 0.36 |
| 4/12/2012 | 22:55:24 | 20.29 | 1.26 | 18.91 | 12.372 | 7.18 | 19.9 | 16 | 4 | 0.36 |
| 4/12/2012 | 23:00:24 | 20.29 | 1.26 | 18.91 | 12.371 | 7.19 | 19.3 | 16 | 3.9 | 0.35 |
| 4/12/2012 | 23:05:24 | 20.29 | 1.26 | 18.91 | 12.368 | 7.18 | 19.5 | 12 | 4 | 0.36 |
| 4/12/2012 | 23:10:24 | 20.29 | 1.26 | 18.91 | 12.371 | 7.18 | 20 | 17 | 3.9 | 0.35 |
| 4/12/2012 | 23:15:24 | 20.29 | 1.26 | 18.91 | 12.371 | 7.19 | 18.9 | 10 | 4.1 | 0.37 |
| 4/12/2012 | 23:20:24 | 20.29 | 1.26 | 18.91 | 12.369 | 7.19 | 19.1 | 5 | 3.9 | 0.35 |
| 4/12/2012 | 23:25:24 | 20.29 | 1.26 | 18.91 | 12.37 | 7.18 | 19.7 | 15 | 3.8 | 0.34 |
| 4/12/2012 | 23:30:24 | 20.29 | 1.26 | 18.91 | 12.369 | 7.18 | 19.7 | 11 | 4 | 0.36 |
| 4/12/2012 | 23:35:24 | 20.29 | 1.26 | 18.91 | 12.368 | 7.19 | 19 | 4 | 3.8 | 0.34 |
| 4/12/2012 | 23:40:24 | 20.29 | 1.26 | 18.91 | 12.369 | 7.19 | 19.2 | 2 | 3.9 | 0.35 |
| 4/12/2012 | 23:45:24 | 20.29 | 1.261 | 18.91 | 12.369 | 7.17 | 20.1 | 14 | 3.8 | 0.34 |
| 4/12/2012 | 23:50:24 | 20.29 | 1.261 | 18.91 | 12.369 | 7.17 | 20.2 | 16 | 3.9 | 0.35 |
| 4/12/2012 | 23:55:24 | 20.29 | 1.26 | 18.91 | 12.37 | 7.18 | 19.7 | 10 | 3.8 | 0.34 |
| 4/13/2012 | 0:00:24 | 20.29 | 1.261 | 18.91 | 12.368 | 7.19 | 19 | 7 | 3.7 | 0.33 |
| 4/13/2012 | 0:05:24 | 20.29 | 1.261 | 18.91 | 12.369 | 7.2 | 18.9 | 4 | 4 | 0.36 |
| 4/13/2012 | 0:10:24 | 20.29 | 1.261 | 18.91 | 12.367 | 7.18 | 20 | 13 | 3.7 | 0.33 |
| 4/13/2012 | 0:15:24 | 20.29 | 1.261 | 18.91 | 12.367 | 7.19 | 19.1 | 5 | 3.8 | 0.34 |
| 4/13/2012 | 0:20:24 | 20.29 | 1.261 | 18.91 | 12.366 | 7.18 | 19.8 | 14 | 3.7 | 0.33 |
| 4/13/2012 | 0:25:24 | 20.3 | 1.261 | 18.91 | 12.365 | 7.19 | 18.9 | 6 | 3.8 | 0.34 |
| 4/13/2012 | 0:30:24 | 20.3 | 1.261 | 18.91 | 12.366 | 7.19 | 19.1 | 10 | 3.7 | 0.33 |
| 4/13/2012 | 0:35:24 | 20.3 | 1.261 | 18.91 | 12.368 | 7.19 | 19.4 | 13 | 3.6 | 0.32 |
| 4/13/2012 | 0:40:24 | 20.3 | 1.261 | 18.91 | 12.368 | 7.19 | 19 | 10 | 3.8 | 0.34 |
| 4/13/2012 | 0:45:24 | 20.29 | 1.261 | 18.91 | 12.371 | 7.18 | 19.9 | 15 | 3.6 | 0.32 |
| 4/13/2012 | 0:50:24 | 20.3 | 1.261 | 18.91 | 12.372 | 7.19 | 19.5 | 9 | 3.7 | 0.34 |
| 4/13/2012 | 0:55:24 | 20.3 | 1.261 | 18.91 | 12.371 | 7.17 | 20.1 | 12 | 3.6 | 0.32 |
| 4/13/2012 | 1:00:24 | 20.3 | 1.261 | 18.91 | 12.37 | 7.18 | 19.8 | 13 | 3.6 | 0.33 |
| 4/13/2012 | 1:05:24 | 20.3 | 1.261 | 18.91 | 12.373 | 7.18 | 19.6 | 10 | 3.5 | 0.32 |
| 4/13/2012 | 1:10:24 | 20.3 | 1.261 | 18.91 | 12.371 | 7.18 | 19.7 | 10 | 3.5 | 0.31 |
| 4/13/2012 | 1:15:24 | 20.3 | 1.261 | 18.91 | 12.372 | 7.17 | 20.4 | 18 | 3.6 | 0.33 |
| 4/13/2012 | 1:20:24 | 20.3 | 1.261 | 18.91 | 12.375 | 7.17 | 20.2 | 13 | 3.5 | 0.31 |
| 4/13/2012 | 1:25:24 | 20.3 | 1.261 | 18.91 | 12.373 | 7.19 | 19.1 | 6 | 3.6 | 0.33 |
| 4/13/2012 | 1:30:24 | 20.3 | 1.261 | 18.91 | 12.375 | 7.18 | 19.7 | 12 | 3.5 | 0.31 |
| 4/13/2012 | 1:35:24 | 20.3 | 1.261 | 18.91 | 12.377 | 7.18 | 19.9 | 17 | 3.5 | 0.31 |
| 4/13/2012 | 1:40:24 | 20.3 | 1.261 | 18.91 | 12.378 | 7.18 | 19.7 | 12 | 3.4 | 0.3 |
| 4/13/2012 | 1:45:24 | 20.3 | 1.262 | 18.91 | 12.378 | 7.17 | 20.5 | 18 | 3.4 | 0.3 |
| 4/13/2012 | 1:50:24 | 20.3 | 1.261 | 18.91 | 12.38 | 7.18 | 19.7 | 16 | 3.5 | 0.31 |
| 4/13/2012 | 1:55:24 | 20.3 | 1.262 | 18.91 | 12.381 | 7.17 | 20.3 | 19 | 3.4 | 0.3 |
| 4/13/2012 | 2:00:24 | 20.3 | 1.262 | 18.91 | 12.38 | 7.17 | 20.2 | 16 | 3.5 | 0.32 |
| 4/13/2012 | 2:05:24 | 20.3 | 1.261 | 18.91 | 12.383 | 7.16 | 20.8 | 21 | 3.4 | 0.31 |
| 4/13/2012 | 2:10:24 | 20.3 | 1.261 | 18.91 | 12.386 | 7.17 | 20.5 | 20 | 3.3 | 0.3 |
| 4/13/2012 | 2:15:24 | 20.3 | 1.262 | 18.91 | 12.387 | 7.16 | 20.7 | 26 | 3.4 | 0.3 |
| 4/13/2012 | 2:20:24 | 20.3 | 1.261 | 18.92 | 12.388 | 7.16 | 21.2 | 22 | 3.3 | 0.3 |
| 4/13/2012 | 2:25:24 | 20.3 | 1.261 | 18.91 | 12.386 | 7.17 | 20.1 | 21 | 3.4 | 0.31 |
| 4/13/2012 | 2:30:24 | 20.3 | 1.262 | 18.92 | 12.389 | 7.16 | 21 | 19 | 3.3 | 0.3 |
| 4/13/2012 | 2:35:24 | 20.3 | 1.262 | 18.92 | 12.387 | 7.16 | 20.8 | 18 | 3.4 | 0.3 |
| 4/13/2012 | 2:40:24 | 20.3 | 1.261 | 18.92 | 12.39 | 7.17 | 20 | 17 | 3.3 | 0.3 |
| 4/13/2012 | 2:45:24 | 20.3 | 1.262 | 18.92 | 12.392 | 7.16 | 21.1 | 19 | 3.2 | 0.29 |
| 4/13/2012 | 2:50:24 | 20.3 | 1.262 | 18.92 | 12.393 | 7.18 | 20 | 12 | 3.3 | 0.3 |
| 4/13/2012 | 2:55:24 | 20.3 | 1.261 | 18.92 | 12.395 | 7.16 | 20.9 | 16 | 3.2 | 0.29 |
| 4/13/2012 | 3:00:24 | 20.3 | 1.262 | 18.92 | 12.397 | 7.17 | 20.4 | 16 | 3.4 | 0.3 |
| 4/13/2012 | 3:05:24 | 20.3 | 1.262 | 18.92 | 12.4 | 7.16 | 21.1 | 21 | 3.2 | 0.29 |
| 4/13/2012 | 3:10:24 | 20.3 | 1.262 | 18.92 | 12.402 | 7.16 | 20.8 | 24 | 3.2 | 0.29 |
| 4/13/2012 | 3:15:24 | 20.3 | 1.262 | 18.92 | 12.405 | 7.17 | 20.2 | 14 | 3.1 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 3:20:24 | 20.3 | 1.262 | 18.92 | 12.409 | 7.16 | 20.8 | 17 | 3.1 | 0.28 |
| 4/13/2012 | 3:25:24 | 20.3 | 1.262 | 18.92 | 12.41 | 7.16 | 20.9 | 17 | 3.2 | 0.29 |
| 4/13/2012 | 3:30:24 | 20.3 | 1.262 | 18.93 | 12.413 | 7.16 | 21.2 | 17 | 3.1 | 0.28 |
| 4/13/2012 | 3:35:24 | 20.3 | 1.262 | 18.93 | 12.416 | 7.16 | 21.1 | 22 | 3.2 | 0.29 |
| 4/13/2012 | 3:40:24 | 20.3 | 1.262 | 18.93 | 12.423 | 7.16 | 21 | 18 | 3.2 | 0.28 |
| 4/13/2012 | 3:45:24 | 20.3 | 1.262 | 18.93 | 12.431 | 7.16 | 20.9 | 18 | 3.1 | 0.28 |
| 4/13/2012 | 3:50:24 | 20.3 | 1.262 | 18.94 | 12.442 | 7.17 | 20.6 | 19 | 3.1 | 0.28 |
| 4/13/2012 | 3:55:24 | 20.3 | 1.262 | 18.94 | 12.445 | 7.15 | 21.7 | 22 | 3 | 0.27 |
| 4/13/2012 | 4:00:24 | 20.3 | 1.262 | 18.94 | 12.451 | 7.15 | 21.3 | 26 | 3.1 | 0.28 |
| 4/13/2012 | 4:05:24 | 20.3 | 1.262 | 18.95 | 12.458 | 7.16 | 21.1 | 19 | 3 | 0.27 |
| 4/13/2012 | 4:10:24 | 20.3 | 1.262 | 18.95 | 12.467 | 7.16 | 21 | 16 | 3.1 | 0.28 |
| 4/13/2012 | 4:15:24 | 20.3 | 1.262 | 18.95 | 12.475 | 7.16 | 21.1 | 22 | 3 | 0.27 |
| 4/13/2012 | 4:20:24 | 20.3 | 1.262 | 18.96 | 12.483 | 7.15 | 21.3 | 24 | 3 | 0.27 |
| 4/13/2012 | 4:25:24 | 20.3 | 1.262 | 18.96 | 12.491 | 7.16 | 20.6 | 15 | 3 | 0.27 |
| 4/13/2012 | 4:30:24 | 20.3 | 1.262 | 18.96 | 12.497 | 7.16 | 21 | 16 | 3 | 0.27 |
| 4/13/2012 | 4:35:24 | 20.3 | 1.262 | 18.96 | 12.501 | 7.15 | 21.5 | 17 | 3.1 | 0.28 |
| 4/13/2012 | 4:40:24 | 20.3 | 1.262 | 18.97 | 12.506 | 7.16 | 21.1 | 19 | 3 | 0.27 |
| 4/13/2012 | 4:45:24 | 20.3 | 1.262 | 18.97 | 12.511 | 7.15 | 21.7 | 17 | 2.9 | 0.26 |
| 4/13/2012 | 4:50:24 | 20.3 | 1.262 | 18.97 | 12.512 | 7.15 | 21.5 | 22 | 2.9 | 0.26 |
| 4/13/2012 | 4:55:24 | 20.3 | 1.262 | 18.97 | 12.515 | 7.15 | 21.5 | 17 | 2.9 | 0.26 |
| 4/13/2012 | 5:00:24 | 20.3 | 1.262 | 18.97 | 12.517 | 7.15 | 21.3 | 21 | 3 | 0.27 |
| 4/13/2012 | 5:05:24 | 20.3 | 1.262 | 18.97 | 12.52 | 7.16 | 21.1 | 15 | 2.9 | 0.26 |
| 4/13/2012 | 5:10:24 | 20.3 | 1.262 | 18.97 | 12.521 | 7.14 | 22 | 21 | 2.9 | 0.26 |
| 4/13/2012 | 5:15:24 | 20.3 | 1.262 | 18.97 | 12.524 | 7.14 | 21.9 | 19 | 2.9 | 0.26 |
| 4/13/2012 | 5:20:24 | 20.3 | 1.262 | 18.98 | 12.526 | 7.16 | 20.8 | 12 | 2.8 | 0.25 |
| 4/13/2012 | 5:25:24 | 20.3 | 1.262 | 18.98 | 12.527 | 7.15 | 21.6 | 16 | 2.9 | 0.26 |
| 4/13/2012 | 5:30:24 | 20.3 | 1.263 | 18.98 | 12.527 | 7.14 | 22.1 | 20 | 2.8 | 0.25 |
| 4/13/2012 | 5:35:24 | 20.3 | 1.263 | 18.98 | 12.528 | 7.15 | 21.5 | 25 | 2.9 | 0.26 |
| 4/13/2012 | 5:40:24 | 20.3 | 1.262 | 18.98 | 12.53 | 7.16 | 21.1 | 23 | 2.8 | 0.26 |
| 4/13/2012 | 5:45:24 | 20.3 | 1.263 | 18.98 | 12.531 | 7.15 | 21.6 | 21 | 2.8 | 0.25 |
| 4/13/2012 | 5:50:24 | 20.3 | 1.262 | 18.98 | 12.532 | 7.15 | 21.2 | 23 | 2.8 | 0.25 |
| 4/13/2012 | 5:55:24 | 20.3 | 1.263 | 18.98 | 12.533 | 7.15 | 21.7 | 23 | 2.8 | 0.25 |
| 4/13/2012 | 6:00:24 | 20.3 | 1.262 | 18.98 | 12.535 | 7.16 | 21.1 | 22 | 2.8 | 0.25 |
| 4/13/2012 | 6:05:24 | 20.3 | 1.262 | 18.98 | 12.535 | 7.16 | 21 | 18 | 2.8 | 0.25 |
| 4/13/2012 | 6:10:24 | 20.3 | 1.263 | 18.98 | 12.536 | 7.16 | 21.1 | 23 | 2.8 | 0.25 |
| 4/13/2012 | 6:15:24 | 20.3 | 1.262 | 18.98 | 12.536 | 7.15 | 21.5 | 28 | 2.7 | 0.25 |
| 4/13/2012 | 6:20:24 | 20.3 | 1.262 | 18.98 | 12.536 | 7.16 | 21.2 | 22 | 2.7 | 0.24 |
| 4/13/2012 | 6:25:24 | 20.3 | 1.262 | 18.98 | 12.536 | 7.16 | 21.2 | 26 | 2.7 | 0.25 |
| 4/13/2012 | 6:30:24 | 20.3 | 1.262 | 18.98 | 12.537 | 7.15 | 21.6 | 25 | 2.7 | 0.24 |
| 4/13/2012 | 6:35:24 | 20.3 | 1.263 | 18.98 | 12.536 | 7.15 | 21.5 | 24 | 2.8 | 0.25 |
| 4/13/2012 | 6:40:24 | 20.3 | 1.263 | 18.98 | 12.535 | 7.15 | 21.5 | 23 | 2.7 | 0.25 |
| 4/13/2012 | 6:45:24 | 20.3 | 1.263 | 18.98 | 12.535 | 7.15 | 21.5 | 27 | 2.7 | 0.24 |
| 4/13/2012 | 6:50:24 | 20.3 | 1.263 | 18.98 | 12.537 | 7.16 | 20.8 | 23 | 2.7 | 0.24 |
| 4/13/2012 | 6:55:24 | 20.3 | 1.263 | 18.98 | 12.527 | 7.15 | 21.3 | 28 | 2.6 | 0.24 |
| 4/13/2012 | 7:00:24 | 20.3 | 1.263 | 18.97 | 12.523 | 7.15 | 21.3 | 22 | 2.7 | 0.24 |
| 4/13/2012 | 7:05:24 | 20.3 | 1.263 | 18.97 | 12.521 | 7.15 | 21.3 | 25 | 2.7 | 0.24 |
| 4/13/2012 | 7:10:24 | 20.3 | 1.263 | 18.97 | 12.52 | 7.16 | 20.7 | 21 | 2.6 | 0.24 |
| 4/13/2012 | 7:15:24 | 20.3 | 1.263 | 18.97 | 12.521 | 7.16 | 20.9 | 16 | 2.6 | 0.24 |
| 4/13/2012 | 7:20:24 | 20.3 | 1.263 | 18.97 | 12.523 | 7.15 | 21.4 | 23 | 2.6 | 0.23 |
| 4/13/2012 | 7:25:24 | 20.3 | 1.263 | 18.97 | 12.519 | 7.16 | 20.9 | 17 | 2.6 | 0.24 |
| 4/13/2012 | 7:30:24 | 20.3 | 1.263 | 18.97 | 12.514 | 7.15 | 21.3 | 25 | 2.6 | 0.23 |
| 4/13/2012 | 7:35:24 | 20.3 | 1.263 | 18.97 | 12.511 | 7.15 | 21.3 | 27 | 2.6 | 0.24 |
| 4/13/2012 | 7:40:24 | 20.3 | 1.263 | 18.97 | 12.505 | 7.16 | 20.9 | 24 | 2.6 | 0.24 |
| 4/13/2012 | 7:45:24 | 20.3 | 1.263 | 18.97 | 12.504 | 7.16 | 21.1 | 15 | 2.6 | 0.23 |
| 4/13/2012 | 7:50:24 | 20.3 | 1.263 | 18.96 | 12.5 | 7.17 | 20.4 | 8 | 2.6 | 0.23 |
| 4/13/2012 | 7:55:24 | 20.3 | 1.263 | 18.96 | 12.499 | 7.17 | 20.4 | 7 | 2.5 | 0.23 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 8:00:24 | 20.3 | 1.263 | 18.96 | 12.496 | 7.15 | 21.2 | 20 | 2.6 | 0.24 |
| 4/13/2012 | 8:05:24 | 20.3 | 1.263 | 18.96 | 12.492 | 7.15 | 21.5 | 18 | 2.6 | 0.23 |
| 4/13/2012 | 8:10:24 | 20.3 | 1.263 | 18.96 | 12.489 | 7.16 | 21.1 | 23 | 2.5 | 0.23 |
| 4/13/2012 | 8:15:24 | 20.3 | 1.263 | 18.96 | 12.487 | 7.17 | 20.6 | 22 | 2.6 | 0.23 |
| 4/13/2012 | 8:20:24 | 20.3 | 1.263 | 18.96 | 12.485 | 7.16 | 20.9 | 19 | 2.5 | 0.23 |
| 4/13/2012 | 8:25:24 | 20.3 | 1.263 | 18.96 | 12.482 | 7.16 | 20.6 | 23 | 2.6 | 0.23 |
| 4/13/2012 | 8:30:24 | 20.3 | 1.263 | 18.96 | 12.481 | 7.16 | 20.6 | 25 | 2.5 | 0.23 |
| 4/13/2012 | 8:35:24 | 20.3 | 1.263 | 18.95 | 12.477 | 7.17 | 20.1 | 23 | 2.5 | 0.23 |
| 4/13/2012 | 8:40:24 | 20.3 | 1.263 | 18.95 | 12.476 | 7.16 | 20.8 | 30 | 2.5 | 0.23 |
| 4/13/2012 | 8:45:24 | 20.3 | 1.262 | 18.95 | 12.473 | 7.17 | 20.1 | 21 | 2.5 | 0.23 |
| 4/13/2012 | 8:50:24 | 20.3 | 1.262 | 18.95 | 12.47 | 7.16 | 21 | 26 | 2.5 | 0.23 |
| 4/13/2012 | 8:55:24 | 20.3 | 1.263 | 18.95 | 12.467 | 7.17 | 20.5 | 19 | 2.5 | 0.23 |
| 4/13/2012 | 9:00:24 | 20.3 | 1.263 | 18.95 | 12.465 | 7.17 | 20.5 | 22 | 2.6 | 0.23 |
| 4/13/2012 | 9:05:24 | 20.3 | 1.263 | 18.95 | 12.46 | 7.17 | 20.1 | 20 | 2.5 | 0.23 |
| 4/13/2012 | 9:10:24 | 20.3 | 1.263 | 18.95 | 12.458 | 7.17 | 20.1 | 27 | 2.5 | 0.22 |
| 4/13/2012 | 9:15:24 | 20.3 | 1.263 | 18.94 | 12.455 | 7.17 | 20.6 | 28 | 2.5 | 0.23 |
| 4/13/2012 | 9:20:24 | 20.3 | 1.262 | 18.94 | 12.454 | 7.16 | 20.8 | 28 | 2.5 | 0.22 |
| 4/13/2012 | 9:25:24 | 20.3 | 1.262 | 18.94 | 12.451 | 7.17 | 20.5 | 35 | 2.5 | 0.23 |
| 4/13/2012 | 9:30:24 | 20.3 | 1.263 | 18.94 | 12.45 | 7.16 | 21 | 36 | 2.5 | 0.22 |
| 4/13/2012 | 9:35:24 | 20.3 | 1.263 | 18.94 | 12.448 | 7.17 | 20.1 | 36 | 2.5 | 0.23 |
| 4/13/2012 | 9:40:24 | 20.3 | 1.263 | 18.94 | 12.448 | 7.17 | 20.6 | 35 | 2.5 | 0.23 |
| 4/13/2012 | 9:45:24 | 20.3 | 1.262 | 18.94 | 12.445 | 7.16 | 20.7 | 40 | 2.5 | 0.22 |
| 4/13/2012 | 9:50:24 | 20.3 | 1.263 | 18.94 | 12.444 | 7.16 | 21 | 44 | 2.5 | 0.23 |
| 4/13/2012 | 9:55:24 | 20.3 | 1.263 | 18.94 | 12.443 | 7.16 | 21.1 | 44 | 2.5 | 0.22 |
| 4/13/2012 | 10:00:24 | 20.31 | 1.262 | 18.94 | 12.441 | 7.17 | 20.6 | 41 | 2.5 | 0.23 |
| 4/13/2012 | 10:05:24 | 20.31 | 1.263 | 18.94 | 12.439 | 7.16 | 20.6 | 45 | 2.5 | 0.22 |
| 4/13/2012 | 10:10:24 | 20.31 | 1.263 | 18.94 | 12.437 | 7.16 | 21.1 | 45 | 2.5 | 0.23 |
| 4/13/2012 | 10:15:24 | 20.3 | 1.262 | 18.94 | 12.436 | 7.16 | 21.1 | 49 | 2.5 | 0.22 |
| 4/13/2012 | 10:20:24 | 20.31 | 1.263 | 18.93 | 12.433 | 7.17 | 20.5 | 41 | 2.5 | 0.23 |
| 4/13/2012 | 10:25:24 | 20.31 | 1.263 | 18.93 | 12.432 | 7.16 | 20.6 | 46 | 2.5 | 0.23 |
| 4/13/2012 | 10:30:24 | 20.31 | 1.263 | 18.93 | 12.431 | 7.16 | 20.8 | 44 | 2.5 | 0.22 |
| 4/13/2012 | 10:35:24 | 20.31 | 1.263 | 18.93 | 12.431 | 7.17 | 20.6 | 48 | 2.5 | 0.22 |
| 4/13/2012 | 10:40:24 | 20.31 | 1.263 | 18.93 | 12.429 | 7.16 | 20.8 | 49 | 2.5 | 0.22 |
| 4/13/2012 | 10:45:24 | 20.31 | 1.262 | 18.93 | 12.429 | 7.16 | 20.8 | 48 | 2.5 | 0.23 |
| 4/13/2012 | 10:50:24 | 20.31 | 1.262 | 18.93 | 12.428 | 7.16 | 20.7 | 48 | 2.5 | 0.22 |
| 4/13/2012 | 10:55:24 | 20.31 | 1.262 | 18.93 | 12.427 | 7.16 | 21.1 | 51 | 2.5 | 0.22 |
| 4/13/2012 | 11:00:24 | 20.31 | 1.262 | 18.93 | 12.423 | 7.17 | 20.4 | 45 | 2.5 | 0.22 |
| 4/13/2012 | 11:05:24 | 20.31 | 1.262 | 18.93 | 12.42 | 7.16 | 20.8 | 45 | 2.5 | 0.22 |
| 4/13/2012 | 11:10:24 | 20.31 | 1.262 | 18.93 | 12.42 | 7.17 | 20.4 | 43 | 2.5 | 0.23 |
| 4/13/2012 | 11:15:24 | 20.31 | 1.263 | 18.93 | 12.418 | 7.17 | 20.1 | 43 | 2.5 | 0.22 |
| 4/13/2012 | 11:20:24 | 20.31 | 1.262 | 18.93 | 12.417 | 7.16 | 20.6 | 44 | 2.5 | 0.22 |
| 4/13/2012 | 11:25:24 | 20.31 | 1.263 | 18.93 | 12.418 | 7.17 | 20.1 | 39 | 2.5 | 0.22 |
| 4/13/2012 | 11:30:24 | 20.31 | 1.262 | 18.93 | 12.417 | 7.17 | 20.4 | 43 | 2.5 | 0.22 |
| 4/13/2012 | 11:35:24 | 20.31 | 1.262 | 18.93 | 12.415 | 7.16 | 20.7 | 43 | 2.5 | 0.22 |
| 4/13/2012 | 11:40:24 | 20.31 | 1.262 | 18.93 | 12.416 | 7.15 | 21.5 | 54 | 2.5 | 0.22 |
| 4/13/2012 | 11:45:24 | 20.31 | 1.262 | 18.93 | 12.413 | 7.16 | 20.8 | 44 | 2.5 | 0.22 |
| 4/13/2012 | 11:50:24 | 20.31 | 1.262 | 18.93 | 12.412 | 7.15 | 21.2 | 48 | 2.5 | 0.22 |
| 4/13/2012 | 11:55:24 | 20.31 | 1.262 | 18.92 | 12.41 | 7.16 | 20.6 | 45 | 2.5 | 0.22 |
| 4/13/2012 | 12:00:24 | 20.31 | 1.262 | 18.92 | 12.405 | 7.16 | 21 | 49 | 2.5 | 0.22 |
| 4/13/2012 | 12:05:24 | 20.31 | 1.262 | 18.92 | 12.405 | 7.17 | 20.5 | 46 | 2.5 | 0.22 |
| 4/13/2012 | 12:10:24 | 20.31 | 1.262 | 18.92 | 12.403 | 7.17 | 20.6 | 44 | 2.5 | 0.23 |
| 4/13/2012 | 12:15:24 | 20.31 | 1.262 | 18.92 | 12.399 | 7.17 | 20.6 | 41 | 2.5 | 0.22 |
| 4/13/2012 | 12:20:24 | 20.31 | 1.262 | 18.92 | 12.396 | 7.15 | 21.5 | 48 | 2.5 | 0.22 |
| 4/13/2012 | 12:25:24 | 20.31 | 1.262 | 18.92 | 12.396 | 7.15 | 21.4 | 54 | 2.5 | 0.22 |
| 4/13/2012 | 12:30:24 | 20.31 | 1.262 | 18.92 | 12.392 | 7.15 | 21.2 | 55 | 2.5 | 0.22 |
| 4/13/2012 | 12:35:24 | 20.31 | 1.262 | 18.92 | 12.402 | 7.15 | 21.5 | 55 | 2.5 | 0.23 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 12:40:24 | 20.31 | 1.262 | 18.92 | 12.39 | 7.16 | 21 | 53 | 2.5 | 0.22 |
| 4/13/2012 | 12:45:24 | 20.31 | 1.262 | 18.92 | 12.391 | 7.16 | 20.9 | 51 | 2.5 | 0.22 |
| 4/13/2012 | 12:50:24 | 20.31 | 1.262 | 18.92 | 12.39 | 7.17 | 20.4 | 48 | 2.5 | 0.22 |
| 4/13/2012 | 12:55:24 | 20.31 | 1.262 | 18.92 | 12.387 | 7.16 | 20.8 | 50 | 2.4 | 0.22 |
| 4/13/2012 | 13:00:24 | 20.31 | 1.262 | 18.91 | 12.383 | 7.17 | 20.3 | 45 | 2.5 | 0.23 |
| 4/13/2012 | 13:05:24 | 20.31 | 1.262 | 18.91 | 12.381 | 7.17 | 20.4 | 47 | 2.5 | 0.22 |
| 4/13/2012 | 13:10:24 | 20.31 | 1.262 | 18.91 | 12.379 | 7.17 | 20.1 | 47 | 2.5 | 0.22 |
| 4/13/2012 | 13:15:24 | 20.31 | 1.262 | 18.91 | 12.38 | 7.17 | 20.3 | 51 | 2.5 | 0.22 |
| 4/13/2012 | 13:20:24 | 20.31 | 1.261 | 18.91 | 12.374 | 7.17 | 20.1 | 49 | 2.4 | 0.22 |
| 4/13/2012 | 13:25:24 | 20.31 | 1.261 | 18.91 | 12.372 | 7.18 | 20 | 47 | 2.5 | 0.22 |
| 4/13/2012 | 13:30:24 | 20.31 | 1.262 | 18.91 | 12.374 | 7.18 | 19.7 | 45 | 2.5 | 0.22 |
| 4/13/2012 | 13:35:24 | 20.31 | 1.261 | 18.91 | 12.373 | 7.18 | 19.6 | 44 | 2.5 | 0.22 |
| 4/13/2012 | 13:40:24 | 20.31 | 1.261 | 18.91 | 12.372 | 7.18 | 20 | 48 | 2.5 | 0.22 |
| 4/13/2012 | 13:45:24 | 20.31 | 1.262 | 18.91 | 12.37 | 7.18 | 19.7 | 49 | 2.4 | 0.22 |
| 4/13/2012 | 13:50:24 | 20.31 | 1.261 | 18.91 | 12.372 | 7.18 | 19.6 | 52 | 2.5 | 0.22 |
| 4/13/2012 | 13:55:24 | 20.31 | 1.261 | 18.91 | 12.373 | 7.19 | 19.3 | 51 | 2.5 | 0.22 |
| 4/13/2012 | 14:00:24 | 20.31 | 1.261 | 18.91 | 12.371 | 7.19 | 19.2 | 48 | 2.5 | 0.22 |
| 4/13/2012 | 14:05:24 | 20.31 | 1.261 | 18.91 | 12.371 | 7.19 | 19 | 48 | 2.5 | 0.22 |
| 4/13/2012 | 14:10:24 | 20.31 | 1.261 | 18.91 | 12.37 | 7.19 | 19 | 50 | 2.4 | 0.22 |
| 4/13/2012 | 14:15:24 | 20.31 | 1.261 | 18.91 | 12.38 | 7.2 | 18.6 | 48 | 2.5 | 0.22 |
| 4/13/2012 | 14:20:24 | 20.32 | 1.261 | 18.91 | 12.377 | 7.19 | 19.1 | 49 | 2.4 | 0.22 |
| 4/13/2012 | 14:25:24 | 20.31 | 1.261 | 18.91 | 12.376 | 7.2 | 18.7 | 50 | 2.5 | 0.22 |
| 4/13/2012 | 14:30:24 | 20.31 | 1.261 | 18.91 | 12.376 | 7.2 | 18.4 | 47 | 2.5 | 0.22 |
| 4/13/2012 | 14:35:24 | 20.31 | 1.261 | 18.91 | 12.377 | 7.2 | 18.6 | 52 | 2.4 | 0.22 |
| 4/13/2012 | 14:40:24 | 20.31 | 1.261 | 18.91 | 12.375 | 7.2 | 18.6 | 56 | 2.5 | 0.22 |
| 4/13/2012 | 14:45:24 | 20.31 | 1.261 | 18.91 | 12.377 | 7.21 | 18.1 | 50 | 2.4 | 0.22 |
| 4/13/2012 | 14:50:24 | 20.31 | 1.261 | 18.91 | 12.379 | 7.2 | 18.5 | 56 | 2.5 | 0.22 |
| 4/13/2012 | 14:55:24 | 20.31 | 1.261 | 18.91 | 12.377 | 7.21 | 17.8 | 51 | 2.5 | 0.22 |
| 4/13/2012 | 15:00:24 | 20.31 | 1.261 | 18.91 | 12.378 | 7.21 | 18.1 | 52 | 2.4 | 0.22 |
| 4/13/2012 | 15:05:24 | 20.31 | 1.261 | 18.91 | 12.377 | 7.22 | 17.3 | 48 | 2.5 | 0.22 |
| 4/13/2012 | 15:10:24 | 20.31 | 1.261 | 18.91 | 12.376 | 7.22 | 17.3 | 49 | 2.4 | 0.22 |
| 4/13/2012 | 15:15:24 | 20.31 | 1.261 | 18.91 | 12.378 | 7.22 | 17.2 | 50 | 2.5 | 0.22 |
| 4/13/2012 | 15:20:24 | 20.31 | 1.261 | 18.91 | 12.378 | 7.22 | 17.2 | 51 | 2.5 | 0.22 |
| 4/13/2012 | 15:25:24 | 20.32 | 1.261 | 18.91 | 12.378 | 7.21 | 17.7 | 52 | 2.4 | 0.22 |
| 4/13/2012 | 15:30:24 | 20.32 | 1.261 | 18.91 | 12.378 | 7.23 | 17 | 52 | 2.5 | 0.22 |
| 4/13/2012 | 15:35:24 | 20.32 | 1.261 | 18.91 | 12.38 | 7.23 | 16.9 | 53 | 2.4 | 0.22 |
| 4/13/2012 | 15:40:24 | 20.32 | 1.26 | 18.91 | 12.38 | 7.22 | 17.5 | 57 | 2.5 | 0.22 |
| 4/13/2012 | 15:45:24 | 20.32 | 1.261 | 18.91 | 12.382 | 7.21 | 18.1 | 57 | 2.5 | 0.22 |
| 4/13/2012 | 15:50:24 | 20.32 | 1.261 | 18.91 | 12.385 | 7.19 | 19.1 | 56 | 2.4 | 0.22 |
| 4/13/2012 | 15:55:24 | 20.32 | 1.261 | 18.91 | 12.386 | 7.18 | 20 | 58 | 2.5 | 0.22 |
| 4/13/2012 | 16:00:24 | 20.32 | 1.261 | 18.92 | 12.388 | 7.14 | 22.1 | 60 | 2.4 | 0.22 |
| 4/13/2012 | 16:05:24 | 20.32 | 1.26 | 18.92 | 12.39 | 7.12 | 23.1 | 62 | 2.5 | 0.22 |
| 4/13/2012 | 16:10:24 | 20.32 | 1.26 | 18.92 | 12.39 | 7.14 | 22 | 63 | 2.5 | 0.22 |
| 4/13/2012 | 16:15:24 | 20.32 | 1.26 | 18.92 | 12.392 | 7.17 | 20.6 | 60 | 2.4 | 0.22 |
| 4/13/2012 | 16:20:24 | 20.32 | 1.261 | 18.92 | 12.394 | 7.17 | 20.4 | 59 | 2.5 | 0.22 |
| 4/13/2012 | 16:25:24 | 20.32 | 1.26 | 18.92 | 12.397 | 7.15 | 21.4 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 16:30:24 | 20.32 | 1.261 | 18.92 | 12.402 | 7.17 | 20.4 | 62 | 2.5 | 0.22 |
| 4/13/2012 | 16:35:24 | 20.32 | 1.26 | 18.92 | 12.405 | 7.16 | 20.9 | 63 | 2.5 | 0.22 |
| 4/13/2012 | 16:40:24 | 20.32 | 1.26 | 18.92 | 12.403 | 7.17 | 20.5 | 60 | 2.4 | 0.22 |
| 4/13/2012 | 16:45:24 | 20.32 | 1.26 | 18.92 | 12.407 | 7.17 | 20.4 | 60 | 2.5 | 0.22 |
| 4/13/2012 | 16:50:24 | 20.32 | 1.26 | 18.92 | 12.409 | 7.17 | 20.2 | 60 | 2.4 | 0.22 |
| 4/13/2012 | 16:55:24 | 20.32 | 1.26 | 18.93 | 12.412 | 7.2 | 18.3 | 63 | 2.5 | 0.22 |
| 4/13/2012 | 17:00:24 | 20.32 | 1.26 | 18.93 | 12.413 | 7.23 | 16.5 | 63 | 2.5 | 0.22 |
| 4/13/2012 | 17:05:24 | 20.32 | 1.26 | 18.93 | 12.417 | 7.24 | 16.2 | 54 | 2.5 | 0.22 |
| 4/13/2012 | 17:10:24 | 20.32 | 1.26 | 18.93 | 12.421 | 7.23 | 16.9 | 62 | 2.4 | 0.22 |
| 4/13/2012 | 17:15:24 | 20.32 | 1.26 | 18.93 | 12.426 | 7.23 | 16.7 | 61 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 17:20:24 | 20.32 | 1.26 | 18.93 | 12.427 | 7.24 | 16.2 | 54 | 2.5 | 0.22 |
| 4/13/2012 | 17:25:24 | 20.32 | 1.26 | 18.93 | 12.43 | 7.23 | 16.6 | 58 | 2.5 | 0.22 |
| 4/13/2012 | 17:30:24 | 20.32 | 1.26 | 18.94 | 12.436 | 7.24 | 16.4 | 55 | 2.5 | 0.22 |
| 4/13/2012 | 17:35:24 | 20.32 | 1.26 | 18.94 | 12.439 | 7.24 | 16.2 | 57 | 2.4 | 0.22 |
| 4/13/2012 | 17:40:24 | 20.32 | 1.26 | 18.94 | 12.44 | 7.24 | 16.4 | 54 | 2.4 | 0.22 |
| 4/13/2012 | 17:45:24 | 20.32 | 1.26 | 18.94 | 12.444 | 7.24 | 16.3 | 58 | 2.5 | 0.22 |
| 4/13/2012 | 17:50:24 | 20.32 | 1.26 | 18.94 | 12.447 | 7.23 | 16.6 | 59 | 2.4 | 0.22 |
| 4/13/2012 | 17:55:24 | 20.32 | 1.26 | 18.94 | 12.448 | 7.24 | 16.5 | 58 | 2.4 | 0.22 |
| 4/13/2012 | 18:00:24 | 20.32 | 1.26 | 18.94 | 12.449 | 7.23 | 16.7 | 62 | 2.4 | 0.22 |
| 4/13/2012 | 18:05:24 | 20.32 | 1.26 | 18.94 | 12.451 | 7.23 | 17 | 62 | 2.4 | 0.22 |
| 4/13/2012 | 18:10:24 | 20.32 | 1.26 | 18.94 | 12.454 | 7.24 | 16.4 | 60 | 2.5 | 0.22 |
| 4/13/2012 | 18:15:24 | 20.32 | 1.26 | 18.94 | 12.454 | 7.24 | 16.5 | 56 | 2.4 | 0.22 |
| 4/13/2012 | 18:20:24 | 20.32 | 1.26 | 18.94 | 12.453 | 7.24 | 16.5 | 60 | 2.4 | 0.22 |
| 4/13/2012 | 18:25:24 | 20.32 | 1.26 | 18.94 | 12.452 | 7.24 | 16.5 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 18:30:24 | 20.32 | 1.26 | 18.94 | 12.452 | 7.23 | 16.6 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 18:35:24 | 20.32 | 1.26 | 18.94 | 12.451 | 7.23 | 17 | 65 | 2.5 | 0.22 |
| 4/13/2012 | 18:40:24 | 20.32 | 1.26 | 18.94 | 12.454 | 7.24 | 16.3 | 59 | 2.4 | 0.22 |
| 4/13/2012 | 18:45:24 | 20.32 | 1.26 | 18.94 | 12.45 | 7.23 | 16.7 | 62 | 2.4 | 0.22 |
| 4/13/2012 | 18:50:24 | 20.32 | 1.26 | 18.94 | 12.447 | 7.23 | 16.7 | 62 | 2.4 | 0.22 |
| 4/13/2012 | 18:55:24 | 20.32 | 1.26 | 18.94 | 12.445 | 7.24 | 16.5 | 64 | 2.4 | 0.22 |
| 4/13/2012 | 19:00:24 | 20.32 | 1.26 | 18.94 | 12.443 | 7.23 | 16.8 | 61 | 2.5 | 0.22 |
| 4/13/2012 | 19:05:24 | 20.32 | 1.259 | 18.94 | 12.442 | 7.23 | 16.6 | 62 | 2.4 | 0.22 |
| 4/13/2012 | 19:10:24 | 20.32 | 1.26 | 18.94 | 12.441 | 7.24 | 16.1 | 61 | 2.4 | 0.22 |
| 4/13/2012 | 19:15:24 | 20.32 | 1.26 | 18.94 | 12.44 | 7.24 | 16.5 | 59 | 2.4 | 0.22 |
| 4/13/2012 | 19:20:24 | 20.32 | 1.26 | 18.94 | 12.439 | 7.24 | 16.5 | 61 | 2.4 | 0.22 |
| 4/13/2012 | 19:25:24 | 20.32 | 1.259 | 18.94 | 12.435 | 7.24 | 16.3 | 62 | 2.5 | 0.22 |
| 4/13/2012 | 19:30:24 | 20.32 | 1.259 | 18.94 | 12.434 | 7.24 | 16.2 | 58 | 2.4 | 0.22 |
| 4/13/2012 | 19:35:24 | 20.32 | 1.259 | 18.94 | 12.434 | 7.24 | 16.5 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 19:40:24 | 20.32 | 1.259 | 18.93 | 12.429 | 7.24 | 16.5 | 61 | 2.4 | 0.22 |
| 4/13/2012 | 19:45:24 | 20.32 | 1.26 | 18.93 | 12.429 | 7.23 | 17 | 65 | 2.4 | 0.22 |
| 4/13/2012 | 19:50:24 | 20.32 | 1.259 | 18.93 | 12.425 | 7.23 | 16.7 | 61 | 2.4 | 0.22 |
| 4/13/2012 | 19:55:24 | 20.32 | 1.259 | 18.93 | 12.422 | 7.24 | 16.2 | 60 | 2.4 | 0.22 |
| 4/13/2012 | 20:00:24 | 20.32 | 1.259 | 18.93 | 12.422 | 7.23 | 16.5 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 20:05:24 | 20.32 | 1.259 | 18.93 | 12.418 | 7.23 | 16.8 | 65 | 2.4 | 0.22 |
| 4/13/2012 | 20:10:24 | 20.32 | 1.259 | 18.93 | 12.418 | 7.23 | 16.7 | 60 | 2.4 | 0.22 |
| 4/13/2012 | 20:15:24 | 20.32 | 1.259 | 18.93 | 12.415 | 7.23 | 16.6 | 64 | 2.4 | 0.22 |
| 4/13/2012 | 20:20:24 | 20.32 | 1.259 | 18.93 | 12.413 | 7.23 | 16.8 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 20:25:24 | 20.32 | 1.259 | 18.93 | 12.413 | 7.23 | 16.7 | 61 | 2.4 | 0.22 |
| 4/13/2012 | 20:30:24 | 20.32 | 1.259 | 18.92 | 12.41 | 7.24 | 16.4 | 59 | 2.4 | 0.22 |
| 4/13/2012 | 20:35:24 | 20.32 | 1.259 | 18.92 | 12.407 | 7.22 | 17.2 | 60 | 2.4 | 0.22 |
| 4/13/2012 | 20:40:24 | 20.32 | 1.259 | 18.92 | 12.404 | 7.21 | 17.9 | 58 | 2.4 | 0.22 |
| 4/13/2012 | 20:45:24 | 20.32 | 1.259 | 18.92 | 12.402 | 7.21 | 18.2 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 20:50:24 | 20.32 | 1.259 | 18.92 | 12.402 | 7.2 | 18.9 | 62 | 2.4 | 0.22 |
| 4/13/2012 | 20:55:24 | 20.32 | 1.259 | 18.92 | 12.4 | 7.2 | 18.6 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 21:00:24 | 20.32 | 1.259 | 18.92 | 12.399 | 7.19 | 18.9 | 64 | 2.4 | 0.22 |
| 4/13/2012 | 21:05:24 | 20.32 | 1.259 | 18.92 | 12.398 | 7.2 | 18.7 | 65 | 2.4 | 0.22 |
| 4/13/2012 | 21:10:24 | 20.32 | 1.259 | 18.92 | 12.395 | 7.19 | 19 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 21:15:24 | 20.32 | 1.259 | 18.92 | 12.395 | 7.19 | 18.9 | 61 | 2.4 | 0.22 |
| 4/13/2012 | 21:20:24 | 20.32 | 1.259 | 18.92 | 12.394 | 7.19 | 19.2 | 61 | 2.4 | 0.22 |
| 4/13/2012 | 21:25:24 | 20.32 | 1.259 | 18.92 | 12.393 | 7.18 | 19.8 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 21:30:24 | 20.32 | 1.259 | 18.92 | 12.391 | 7.19 | 19.2 | 62 | 2.4 | 0.22 |
| 4/13/2012 | 21:35:24 | 20.32 | 1.259 | 18.92 | 12.39 | 7.17 | 20.1 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 21:40:24 | 20.32 | 1.259 | 18.92 | 12.387 | 7.18 | 19.8 | 63 | 2.4 | 0.22 |
| 4/13/2012 | 21:45:24 | 20.32 | 1.259 | 18.91 | 12.385 | 7.17 | 20.6 | 64 | 2.4 | 0.22 |
| 4/13/2012 | 21:50:24 | 20.32 | 1.259 | 18.91 | 12.385 | 7.16 | 20.9 | 66 | 2.4 | 0.22 |
| 4/13/2012 | 21:55:24 | 20.32 | 1.258 | 18.91 | 12.384 | 7.17 | 20.1 | 61 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 22:00:24 | 20.32 | 1.258 | 18.91 | 12.381 | 7.16 | 20.8 | 66 | 2.4 | 0.22 |
| 4/13/2012 | 22:05:24 | 20.32 | 1.258 | 18.91 | 12.379 | 7.16 | 20.9 | 64 | 2.4 | 0.22 |
| 4/13/2012 | 22:10:24 | 20.32 | 1.259 | 18.91 | 12.378 | 7.16 | 20.8 | 59 | 2.4 | 0.22 |
| 4/13/2012 | 22:15:24 | 20.32 | 1.259 | 18.91 | 12.378 | 7.15 | 21.2 | 60 | 2.4 | 0.22 |
| 4/13/2012 | 22:20:24 | 20.32 | 1.259 | 18.91 | 12.376 | 7.15 | 21.3 | 59 | 2.4 | 0.22 |
| 4/13/2012 | 22:25:24 | 20.32 | 1.258 | 18.91 | 12.376 | 7.15 | 21.5 | 59 | 2.4 | 0.22 |
| 4/13/2012 | 22:30:24 | 20.32 | 1.258 | 18.91 | 12.376 | 7.15 | 21.5 | 58 | 2.4 | 0.22 |
| 4/13/2012 | 22:35:24 | 20.32 | 1.258 | 18.91 | 12.375 | 7.14 | 22.1 | 55 | 2.4 | 0.22 |
| 4/13/2012 | 22:40:24 | 20.32 | 1.259 | 18.91 | 12.374 | 7.14 | 22 | 56 | 2.4 | 0.22 |
| 4/13/2012 | 22:45:24 | 20.32 | 1.258 | 18.91 | 12.372 | 7.14 | 22.2 | 54 | 2.4 | 0.22 |
| 4/13/2012 | 22:50:24 | 20.32 | 1.258 | 18.91 | 12.37 | 7.15 | 21.6 | 54 | 2.4 | 0.22 |
| 4/13/2012 | 22:55:24 | 20.32 | 1.258 | 18.91 | 12.366 | 7.15 | 21.5 | 51 | 2.4 | 0.22 |
| 4/13/2012 | 23:00:24 | 20.32 | 1.259 | 18.91 | 12.365 | 7.15 | 21.5 | 51 | 2.4 | 0.22 |
| 4/13/2012 | 23:05:24 | 20.32 | 1.258 | 18.91 | 12.365 | 7.14 | 22.1 | 52 | 2.4 | 0.22 |
| 4/13/2012 | 23:10:24 | 20.32 | 1.258 | 18.9 | 12.364 | 7.14 | 22 | 52 | 2.4 | 0.22 |
| 4/13/2012 | 23:15:24 | 20.32 | 1.258 | 18.91 | 12.365 | 7.15 | 21.6 | 48 | 2.4 | 0.22 |
| 4/13/2012 | 23:20:24 | 20.32 | 1.258 | 18.9 | 12.364 | 7.14 | 22.2 | 53 | 2.4 | 0.22 |
| 4/13/2012 | 23:25:24 | 20.32 | 1.258 | 18.9 | 12.361 | 7.13 | 22.3 | 53 | 2.4 | 0.22 |
| 4/13/2012 | 23:30:24 | 20.32 | 1.258 | 18.9 | 12.363 | 7.14 | 22.3 | 48 | 2.4 | 0.22 |
| 4/13/2012 | 23:35:24 | 20.32 | 1.258 | 18.9 | 12.362 | 7.14 | 22.3 | 46 | 2.4 | 0.22 |
| 4/13/2012 | 23:40:24 | 20.32 | 1.258 | 18.9 | 12.361 | 7.13 | 22.7 | 43 | 2.4 | 0.22 |
| 4/13/2012 | 23:45:24 | 20.32 | 1.258 | 18.9 | 12.36 | 7.13 | 22.8 | 40 | 2.4 | 0.22 |
| 4/13/2012 | 23:50:24 | 20.32 | 1.258 | 18.9 | 12.358 | 7.12 | 23.4 | 43 | 2.4 | 0.22 |
| 4/13/2012 | 23:55:24 | 20.32 | 1.258 | 18.9 | 12.358 | 7.13 | 22.9 | 40 | 2.4 | 0.22 |
| 4/14/2012 | 0:00:24 | 20.32 | 1.258 | 18.9 | 12.357 | 7.12 | 22.9 | 34 | 2.4 | 0.22 |
| 4/14/2012 | 0:05:24 | 20.32 | 1.258 | 18.9 | 12.358 | 7.12 | 23.1 | 36 | 2.4 | 0.22 |
| 4/14/2012 | 0:10:24 | 20.32 | 1.258 | 18.9 | 12.355 | 7.13 | 22.8 | 36 | 2.4 | 0.22 |
| 4/14/2012 | 0:15:24 | 20.32 | 1.258 | 18.9 | 12.354 | 7.14 | 22.1 | 34 | 2.4 | 0.22 |
| 4/14/2012 | 0:20:24 | 20.32 | 1.258 | 18.9 | 12.355 | 7.13 | 22.6 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 0:25:24 | 20.32 | 1.258 | 18.9 | 12.354 | 7.12 | 23.2 | 32 | 2.4 | 0.22 |
| 4/14/2012 | 0:30:24 | 20.32 | 1.258 | 18.9 | 12.352 | 7.13 | 22.6 | 32 | 2.4 | 0.22 |
| 4/14/2012 | 0:35:24 | 20.32 | 1.258 | 18.9 | 12.352 | 7.12 | 23.3 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 0:40:24 | 20.32 | 1.258 | 18.9 | 12.353 | 7.1 | 24.6 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 0:45:24 | 20.32 | 1.257 | 18.9 | 12.349 | 7.13 | 22.7 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 0:50:24 | 20.32 | 1.258 | 18.9 | 12.348 | 7.1 | 24.7 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 0:55:24 | 20.32 | 1.258 | 18.9 | 12.348 | 7.11 | 23.6 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 1:00:24 | 20.32 | 1.258 | 18.9 | 12.349 | 7.12 | 23.3 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 1:05:24 | 20.32 | 1.257 | 18.9 | 12.347 | 7.11 | 24 | 29 | 2.4 | 0.22 |
| 4/14/2012 | 1:10:24 | 20.32 | 1.257 | 18.9 | 12.349 | 7.11 | 23.8 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 1:15:24 | 20.32 | 1.258 | 18.9 | 12.349 | 7.11 | 23.6 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 1:20:24 | 20.32 | 1.258 | 18.9 | 12.351 | 7.11 | 23.5 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 1:25:24 | 20.32 | 1.257 | 18.9 | 12.35 | 7.12 | 23.4 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 1:30:24 | 20.32 | 1.257 | 18.9 | 12.352 | 7.12 | 23.4 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 1:35:24 | 20.32 | 1.257 | 18.9 | 12.35 | 7.08 | 25.8 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 1:40:24 | 20.32 | 1.257 | 18.9 | 12.35 | 7.1 | 24.3 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 1:45:24 | 20.32 | 1.257 | 18.9 | 12.352 | 7.12 | 23.5 | 21 | 2.4 | 0.22 |
| 4/14/2012 | 1:50:24 | 20.32 | 1.258 | 18.9 | 12.347 | 7.11 | 24 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 1:55:24 | 20.32 | 1.257 | 18.9 | 12.347 | 7.11 | 23.8 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 2:00:24 | 20.32 | 1.257 | 18.9 | 12.347 | 7.1 | 24.5 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 2:05:24 | 20.32 | 1.258 | 18.9 | 12.346 | 7.1 | 24.5 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 2:10:24 | 20.32 | 1.258 | 18.9 | 12.345 | 7.1 | 24.5 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 2:15:24 | 20.32 | 1.257 | 18.9 | 12.344 | 7.1 | 24.6 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 2:20:24 | 20.32 | 1.257 | 18.9 | 12.345 | 7.1 | 24.5 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 2:25:24 | 20.32 | 1.257 | 18.9 | 12.345 | 7.09 | 24.8 | 21 | 2.4 | 0.22 |
| 4/14/2012 | 2:30:24 | 20.32 | 1.258 | 18.9 | 12.348 | 7.09 | 25 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 2:35:24 | 20.32 | 1.257 | 18.9 | 12.349 | 7.09 | 25.1 | 23 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 2:40:24 | 20.32 | 1.257 | 18.9 | 12.35 | 7.08 | 25.4 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 2:45:24 | 20.32 | 1.257 | 18.9 | 12.351 | 7.08 | 25.8 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 2:50:24 | 20.32 | 1.257 | 18.9 | 12.353 | 7.07 | 25.9 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 2:55:24 | 20.32 | 1.257 | 18.9 | 12.354 | 7.07 | 26.1 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 3:00:24 | 20.32 | 1.257 | 18.9 | 12.354 | 7.07 | 26.1 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 3:05:24 | 20.33 | 1.257 | 18.9 | 12.356 | 7.07 | 26.2 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 3:10:24 | 20.32 | 1.257 | 18.9 | 12.357 | 7.07 | 26.3 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 3:15:24 | 20.32 | 1.257 | 18.9 | 12.359 | 7.06 | 26.5 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 3:20:24 | 20.32 | 1.257 | 18.9 | 12.36 | 7.06 | 27 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 3:25:24 | 20.33 | 1.258 | 18.9 | 12.362 | 7.05 | 27.3 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 3:30:24 | 20.32 | 1.257 | 18.9 | 12.363 | 7.03 | 28.3 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 3:35:24 | 20.32 | 1.257 | 18.9 | 12.363 | 7.03 | 28.2 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 3:40:24 | 20.32 | 1.257 | 18.91 | 12.368 | 7.02 | 28.8 | 29 | 2.4 | 0.22 |
| 4/14/2012 | 3:45:24 | 20.32 | 1.257 | 18.91 | 12.368 | 7.01 | 29.3 | 31 | 2.4 | 0.22 |
| 4/14/2012 | 3:50:24 | 20.32 | 1.257 | 18.91 | 12.372 | 7.01 | 29.7 | 30 | 2.4 | 0.22 |
| 4/14/2012 | 3:55:24 | 20.32 | 1.257 | 18.91 | 12.376 | 7.01 | 29.5 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 4:00:24 | 20.32 | 1.257 | 18.91 | 12.379 | 7.01 | 29.7 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 4:05:24 | 20.32 | 1.257 | 18.91 | 12.38 | 7 | 30.2 | 30 | 2.4 | 0.22 |
| 4/14/2012 | 4:10:24 | 20.32 | 1.257 | 18.91 | 12.384 | 7.01 | 29.8 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 4:15:24 | 20.33 | 1.257 | 18.91 | 12.384 | 7 | 30.2 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 4:20:24 | 20.32 | 1.257 | 18.91 | 12.386 | 6.99 | 30.9 | 29 | 2.4 | 0.22 |
| 4/14/2012 | 4:25:24 | 20.33 | 1.257 | 18.92 | 12.387 | 7 | 30.3 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 4:30:24 | 20.33 | 1.257 | 18.92 | 12.392 | 7.01 | 29.6 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 4:35:24 | 20.32 | 1.257 | 18.92 | 12.396 | 7.01 | 29.5 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 4:40:24 | 20.33 | 1.257 | 18.92 | 12.398 | 6.99 | 30.5 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 4:45:24 | 20.33 | 1.257 | 18.92 | 12.402 | 6.99 | 30.7 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 4:50:24 | 20.33 | 1.257 | 18.92 | 12.405 | 6.98 | 31.3 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 4:55:24 | 20.33 | 1.257 | 18.93 | 12.414 | 6.97 | 32 | 30 | 2.4 | 0.22 |
| 4/14/2012 | 5:00:24 | 20.33 | 1.257 | 18.93 | 12.419 | 6.97 | 31.9 | 29 | 2.4 | 0.22 |
| 4/14/2012 | 5:05:24 | 20.33 | 1.257 | 18.93 | 12.428 | 6.97 | 31.8 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 5:10:24 | 20.33 | 1.257 | 18.94 | 12.436 | 6.96 | 32.5 | 31 | 2.4 | 0.22 |
| 4/14/2012 | 5:15:24 | 20.33 | 1.257 | 18.94 | 12.445 | 6.97 | 32.1 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 5:20:24 | 20.33 | 1.257 | 18.94 | 12.451 | 6.95 | 32.9 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 5:25:24 | 20.33 | 1.257 | 18.95 | 12.459 | 6.95 | 33.2 | 32 | 2.4 | 0.22 |
| 4/14/2012 | 5:30:24 | 20.32 | 1.257 | 18.95 | 12.463 | 6.96 | 32.2 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 5:35:24 | 20.32 | 1.257 | 18.95 | 12.469 | 6.95 | 33.3 | 30 | 2.4 | 0.22 |
| 4/14/2012 | 5:40:24 | 20.33 | 1.257 | 18.95 | 12.473 | 6.95 | 32.9 | 29 | 2.4 | 0.22 |
| 4/14/2012 | 5:45:24 | 20.32 | 1.257 | 18.95 | 12.479 | 6.95 | 32.8 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 5:50:24 | 20.32 | 1.257 | 18.96 | 12.481 | 6.95 | 33 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 5:55:24 | 20.32 | 1.257 | 18.96 | 12.484 | 6.94 | 33.9 | 30 | 2.4 | 0.22 |
| 4/14/2012 | 6:00:24 | 20.32 | 1.257 | 18.96 | 12.488 | 6.94 | 33.6 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 6:05:24 | 20.32 | 1.257 | 18.96 | 12.492 | 6.94 | 33.4 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 6:10:24 | 20.32 | 1.257 | 18.96 | 12.497 | 6.94 | 33.4 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 6:15:24 | 20.32 | 1.257 | 18.96 | 12.497 | 6.93 | 34.4 | 30 | 2.4 | 0.22 |
| 4/14/2012 | 6:20:24 | 20.32 | 1.257 | 18.96 | 12.5 | 6.94 | 33.7 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 6:25:24 | 20.32 | 1.257 | 18.97 | 12.504 | 6.95 | 33.2 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 6:30:24 | 20.32 | 1.257 | 18.97 | 12.506 | 6.92 | 34.6 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 6:35:24 | 20.33 | 1.256 | 18.97 | 12.506 | 6.94 | 33.6 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 6:40:24 | 20.33 | 1.257 | 18.97 | 12.509 | 6.94 | 33.8 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 6:45:24 | 20.33 | 1.257 | 18.97 | 12.512 | 6.92 | 34.5 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 6:50:24 | 20.33 | 1.257 | 18.97 | 12.512 | 6.93 | 34.1 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 6:55:24 | 20.33 | 1.257 | 18.97 | 12.513 | 6.94 | 33.9 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 7:00:24 | 20.33 | 1.256 | 18.97 | 12.513 | 6.93 | 34 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 7:05:24 | 20.33 | 1.257 | 18.97 | 12.514 | 6.92 | 35 | 30 | 2.4 | 0.22 |
| 4/14/2012 | 7:10:24 | 20.33 | 1.257 | 18.97 | 12.514 | 6.92 | 34.7 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 7:15:24 | 20.33 | 1.257 | 18.97 | 12.514 | 6.93 | 34.2 | 26 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 7:20:24 | 20.33 | 1.257 | 18.97 | 12.516 | 6.92 | 34.8 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 7:25:24 | 20.33 | 1.256 | 18.97 | 12.517 | 6.91 | 35.2 | 30 | 2.4 | 0.22 |
| 4/14/2012 | 7:30:24 | 20.33 | 1.256 | 18.97 | 12.516 | 6.92 | 35 | 29 | 2.4 | 0.22 |
| 4/14/2012 | 7:35:24 | 20.33 | 1.256 | 18.97 | 12.516 | 6.92 | 34.7 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 7:40:24 | 20.33 | 1.256 | 18.97 | 12.514 | 6.92 | 34.7 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 7:45:24 | 20.33 | 1.257 | 18.97 | 12.514 | 6.91 | 35.6 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 7:50:24 | 20.33 | 1.256 | 18.97 | 12.511 | 6.92 | 34.6 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 7:55:24 | 20.33 | 1.256 | 18.97 | 12.507 | 6.91 | 35.6 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 8:00:24 | 20.33 | 1.256 | 18.97 | 12.505 | 6.92 | 35 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 8:05:24 | 20.33 | 1.256 | 18.96 | 12.502 | 6.9 | 36.3 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 8:10:24 | 20.33 | 1.256 | 18.96 | 12.498 | 6.9 | 36 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 8:15:24 | 20.33 | 1.256 | 18.96 | 12.496 | 6.91 | 35.4 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 8:20:24 | 20.33 | 1.256 | 18.96 | 12.491 | 6.9 | 35.9 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 8:25:24 | 20.33 | 1.256 | 18.96 | 12.485 | 6.91 | 35.6 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 8:30:24 | 20.33 | 1.256 | 18.96 | 12.482 | 6.89 | 36.6 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 8:35:24 | 20.32 | 1.256 | 18.96 | 12.483 | 6.9 | 36 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 8:40:24 | 20.33 | 1.256 | 18.95 | 12.479 | 6.89 | 36.6 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 8:45:24 | 20.33 | 1.256 | 18.95 | 12.478 | 6.89 | 36.5 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 8:50:24 | 20.33 | 1.256 | 18.95 | 12.477 | 6.9 | 36.2 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 8:55:24 | 20.32 | 1.256 | 18.95 | 12.474 | 6.9 | 36 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 9:00:24 | 20.33 | 1.256 | 18.95 | 12.469 | 6.89 | 36.4 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 9:05:24 | 20.33 | 1.256 | 18.95 | 12.466 | 6.88 | 37 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 9:10:24 | 20.33 | 1.256 | 18.95 | 12.462 | 6.89 | 36.7 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 9:15:24 | 20.33 | 1.256 | 18.94 | 12.455 | 6.89 | 36.4 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 9:20:24 | 20.33 | 1.256 | 18.94 | 12.452 | 6.89 | 36.6 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 9:25:24 | 20.33 | 1.256 | 18.94 | 12.448 | 6.88 | 37.2 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 9:30:24 | 20.33 | 1.256 | 18.94 | 12.446 | 6.88 | 37.4 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 9:35:24 | 20.33 | 1.256 | 18.94 | 12.445 | 6.89 | 36.9 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 9:40:24 | 20.33 | 1.256 | 18.94 | 12.441 | 6.88 | 37.3 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 9:45:24 | 20.33 | 1.256 | 18.94 | 12.443 | 6.88 | 37.2 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 9:50:24 | 20.33 | 1.256 | 18.94 | 12.44 | 6.88 | 37.1 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 9:55:24 | 20.33 | 1.256 | 18.94 | 12.437 | 6.88 | 37.2 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 10:00:24 | 20.33 | 1.256 | 18.94 | 12.437 | 6.87 | 37.5 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 10:05:24 | 20.33 | 1.256 | 18.93 | 12.433 | 6.87 | 38 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 10:10:24 | 20.33 | 1.256 | 18.93 | 12.431 | 6.86 | 38 | 21 | 2.4 | 0.22 |
| 4/14/2012 | 10:15:24 | 20.33 | 1.256 | 18.93 | 12.429 | 6.86 | 38.2 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 10:20:24 | 20.33 | 1.256 | 18.93 | 12.427 | 6.87 | 37.9 | 21 | 2.4 | 0.22 |
| 4/14/2012 | 10:25:24 | 20.33 | 1.256 | 18.93 | 12.425 | 6.87 | 37.9 | 21 | 2.4 | 0.22 |
| 4/14/2012 | 10:30:24 | 20.33 | 1.256 | 18.93 | 12.42 | 6.86 | 38.4 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 10:35:24 | 20.33 | 1.256 | 18.93 | 12.42 | 6.86 | 38.1 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 10:40:24 | 20.33 | 1.256 | 18.93 | 12.415 | 6.85 | 38.7 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 10:45:24 | 20.33 | 1.256 | 18.93 | 12.415 | 6.86 | 38.3 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 10:50:24 | 20.33 | 1.256 | 18.93 | 12.413 | 6.86 | 38.5 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 10:55:24 | 20.33 | 1.256 | 18.93 | 12.413 | 6.85 | 38.7 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 11:00:24 | 20.33 | 1.256 | 18.93 | 12.411 | 6.85 | 38.9 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 11:05:24 | 20.33 | 1.256 | 18.93 | 12.412 | 6.85 | 39 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 11:10:24 | 20.33 | 1.256 | 18.93 | 12.413 | 6.85 | 38.9 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 11:15:24 | 20.33 | 1.256 | 18.93 | 12.411 | 6.85 | 38.9 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 11:20:24 | 20.33 | 1.256 | 18.92 | 12.408 | 6.85 | 39 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 11:25:24 | 20.33 | 1.256 | 18.92 | 12.408 | 6.84 | 39.6 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 11:30:24 | 20.33 | 1.256 | 18.92 | 12.406 | 6.84 | 39.6 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 11:35:24 | 20.33 | 1.256 | 18.92 | 12.405 | 6.84 | 39.7 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 11:40:24 | 20.33 | 1.256 | 18.92 | 12.403 | 6.84 | 39.4 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 11:45:24 | 20.33 | 1.256 | 18.92 | 12.4 | 6.84 | 39.5 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 11:50:24 | 20.33 | 1.256 | 18.92 | 12.398 | 6.83 | 40.2 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 11:55:24 | 20.33 | 1.256 | 18.92 | 12.398 | 6.83 | 40 | 27 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 12:00:24 | 20.33 | 1.256 | 18.92 | 12.399 | 6.83 | 40 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 12:05:24 | 20.33 | 1.256 | 18.92 | 12.395 | 6.83 | 40 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 12:10:24 | 20.33 | 1.256 | 18.92 | 12.397 | 6.83 | 40.1 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 12:15:24 | 20.33 | 1.256 | 18.92 | 12.393 | 6.82 | 40.6 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 12:20:24 | 20.33 | 1.256 | 18.92 | 12.395 | 6.82 | 40.7 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 12:25:24 | 20.33 | 1.256 | 18.92 | 12.394 | 6.82 | 40.8 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 12:30:24 | 20.33 | 1.256 | 18.92 | 12.393 | 6.81 | 41 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 12:35:24 | 20.33 | 1.256 | 18.92 | 12.392 | 6.82 | 40.9 | 28 | 2.4 | 0.22 |
| 4/14/2012 | 12:40:24 | 20.33 | 1.256 | 18.92 | 12.39 | 6.82 | 40.8 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 12:45:24 | 20.33 | 1.256 | 18.92 | 12.388 | 6.82 | 40.7 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 12:50:24 | 20.33 | 1.256 | 18.91 | 12.384 | 6.82 | 40.9 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 12:55:24 | 20.33 | 1.256 | 18.91 | 12.384 | 6.82 | 40.8 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 13:00:24 | 20.33 | 1.256 | 18.91 | 12.385 | 6.81 | 41.3 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 13:05:24 | 20.33 | 1.256 | 18.91 | 12.38 | 6.81 | 41.2 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 13:10:24 | 20.33 | 1.256 | 18.91 | 12.381 | 6.81 | 41.3 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 13:15:24 | 20.33 | 1.256 | 18.91 | 12.379 | 6.82 | 40.8 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 13:20:24 | 20.33 | 1.256 | 18.91 | 12.378 | 6.82 | 40.8 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 13:25:24 | 20.33 | 1.256 | 18.91 | 12.378 | 6.82 | 40.3 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 13:30:24 | 20.33 | 1.256 | 18.91 | 12.379 | 6.82 | 40.8 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 13:35:24 | 20.33 | 1.256 | 18.91 | 12.378 | 6.82 | 40.6 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 13:40:24 | 20.33 | 1.256 | 18.91 | 12.374 | 6.82 | 40.4 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 13:45:24 | 20.33 | 1.256 | 18.91 | 12.375 | 6.81 | 41 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 13:50:24 | 20.33 | 1.256 | 18.91 | 12.374 | 6.8 | 41.5 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 13:55:24 | 20.33 | 1.256 | 18.91 | 12.373 | 6.82 | 40.9 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 14:00:24 | 20.33 | 1.256 | 18.91 | 12.371 | 6.8 | 41.5 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 14:05:24 | 20.33 | 1.256 | 18.91 | 12.371 | 6.8 | 41.5 | 27 | 2.4 | 0.22 |
| 4/14/2012 | 14:10:24 | 20.33 | 1.256 | 18.91 | 12.368 | 6.82 | 40.9 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 14:15:24 | 20.33 | 1.255 | 18.91 | 12.368 | 6.81 | 41.3 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 14:20:24 | 20.33 | 1.256 | 18.91 | 12.367 | 6.81 | 41.1 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 14:25:24 | 20.33 | 1.256 | 18.9 | 12.363 | 6.81 | 41.4 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 14:30:24 | 20.33 | 1.256 | 18.9 | 12.364 | 6.8 | 41.7 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 14:35:24 | 20.33 | 1.255 | 18.9 | 12.36 | 6.81 | 41.2 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 14:40:24 | 20.33 | 1.256 | 18.9 | 12.362 | 6.81 | 41.3 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 14:45:24 | 20.33 | 1.255 | 18.9 | 12.36 | 6.8 | 41.6 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 14:50:24 | 20.33 | 1.256 | 18.9 | 12.361 | 6.8 | 42 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 14:55:24 | 20.33 | 1.256 | 18.9 | 12.361 | 6.79 | 42.4 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 15:00:24 | 20.33 | 1.255 | 18.9 | 12.36 | 6.8 | 41.9 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 15:05:24 | 20.33 | 1.256 | 18.9 | 12.358 | 6.8 | 41.8 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 15:10:24 | 20.33 | 1.255 | 18.9 | 12.358 | 6.8 | 41.9 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 15:15:24 | 20.33 | 1.256 | 18.9 | 12.359 | 6.8 | 42 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 15:20:24 | 20.33 | 1.255 | 18.9 | 12.359 | 6.8 | 42 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 15:25:24 | 20.33 | 1.256 | 18.9 | 12.356 | 6.8 | 42.1 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 15:30:24 | 20.33 | 1.256 | 18.9 | 12.356 | 6.79 | 42.4 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 15:35:24 | 20.33 | 1.256 | 18.9 | 12.356 | 6.79 | 42.4 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 15:40:24 | 20.33 | 1.256 | 18.9 | 12.355 | 6.79 | 42.4 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 15:45:24 | 20.33 | 1.256 | 18.9 | 12.354 | 6.79 | 42.5 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 15:50:24 | 20.33 | 1.255 | 18.9 | 12.352 | 6.79 | 42.4 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 15:55:24 | 20.33 | 1.255 | 18.9 | 12.351 | 6.79 | 42.6 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 16:00:24 | 20.33 | 1.256 | 18.9 | 12.352 | 6.79 | 42.5 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 16:05:24 | 20.33 | 1.255 | 18.9 | 12.35 | 6.79 | 42.5 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 16:10:24 | 20.33 | 1.255 | 18.9 | 12.351 | 6.78 | 42.7 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 16:15:24 | 20.33 | 1.255 | 18.9 | 12.349 | 6.78 | 42.8 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 16:20:24 | 20.33 | 1.255 | 18.9 | 12.35 | 6.78 | 42.8 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 16:25:24 | 20.33 | 1.256 | 18.9 | 12.35 | 6.78 | 43 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 16:30:24 | 20.33 | 1.255 | 18.9 | 12.352 | 6.77 | 43.4 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 16:35:24 | 20.33 | 1.255 | 18.9 | 12.351 | 6.77 | 43.5 | 26 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 16:40:24 | 20.33 | 1.255 | 18.9 | 12.352 | 6.76 | 44.1 | 26 | 2.4 | 0.22 |
| 4/14/2012 | 16:45:24 | 20.33 | 1.255 | 18.9 | 12.353 | 6.76 | 44 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 16:50:24 | 20.33 | 1.255 | 18.9 | 12.354 | 6.77 | 43.6 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 16:55:24 | 20.33 | 1.255 | 18.9 | 12.355 | 6.77 | 43.4 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 17:00:24 | 20.33 | 1.255 | 18.9 | 12.357 | 6.77 | 43.7 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 17:05:24 | 20.33 | 1.255 | 18.9 | 12.358 | 6.76 | 44.1 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 17:10:24 | 20.33 | 1.255 | 18.9 | 12.357 | 6.77 | 43.5 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 17:15:24 | 20.33 | 1.255 | 18.9 | 12.36 | 6.77 | 43.5 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 17:20:24 | 20.33 | 1.255 | 18.9 | 12.363 | 6.77 | 43.5 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 17:25:24 | 20.33 | 1.255 | 18.9 | 12.361 | 6.77 | 43.5 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 17:30:24 | 20.33 | 1.255 | 18.91 | 12.368 | 6.77 | 43.6 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 17:35:24 | 20.33 | 1.255 | 18.91 | 12.37 | 6.77 | 43.5 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 17:40:24 | 20.33 | 1.255 | 18.91 | 12.368 | 6.77 | 43.6 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 17:45:24 | 20.33 | 1.255 | 18.91 | 12.37 | 6.76 | 43.9 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 17:50:24 | 20.33 | 1.255 | 18.91 | 12.371 | 6.76 | 44.3 | 25 | 2.4 | 0.22 |
| 4/14/2012 | 17:55:24 | 20.33 | 1.255 | 18.91 | 12.374 | 6.77 | 43.5 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 18:00:24 | 20.33 | 1.255 | 18.91 | 12.374 | 6.77 | 43.6 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 18:05:24 | 20.33 | 1.255 | 18.91 | 12.376 | 6.76 | 43.8 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 18:10:24 | 20.33 | 1.255 | 18.91 | 12.379 | 6.76 | 44.4 | 24 | 2.4 | 0.22 |
| 4/14/2012 | 18:15:24 | 20.33 | 1.255 | 18.91 | 12.38 | 6.77 | 43.8 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 18:20:24 | 20.33 | 1.255 | 18.91 | 12.383 | 6.76 | 43.9 | 21 | 2.4 | 0.22 |
| 4/14/2012 | 18:25:24 | 20.33 | 1.255 | 18.91 | 12.384 | 6.77 | 43.8 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 18:30:24 | 20.33 | 1.255 | 18.91 | 12.384 | 6.76 | 44.1 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 18:35:24 | 20.33 | 1.255 | 18.92 | 12.387 | 6.76 | 44 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 18:40:24 | 20.33 | 1.254 | 18.92 | 12.388 | 6.76 | 44.3 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 18:45:24 | 20.33 | 1.255 | 18.92 | 12.389 | 6.76 | 44.2 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 18:50:24 | 20.33 | 1.255 | 18.92 | 12.39 | 6.76 | 44 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 18:55:24 | 20.33 | 1.255 | 18.92 | 12.391 | 6.76 | 44.1 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 19:00:24 | 20.33 | 1.255 | 18.92 | 12.391 | 6.76 | 44.3 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 19:05:24 | 20.33 | 1.254 | 18.92 | 12.394 | 6.75 | 44.4 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 19:10:24 | 20.33 | 1.255 | 18.92 | 12.393 | 6.76 | 44.3 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 19:15:24 | 20.33 | 1.255 | 18.92 | 12.392 | 6.76 | 44.3 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 19:20:24 | 20.33 | 1.254 | 18.92 | 12.392 | 6.76 | 44.2 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 19:25:24 | 20.33 | 1.254 | 18.92 | 12.393 | 6.76 | 44 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 19:30:24 | 20.33 | 1.255 | 18.92 | 12.393 | 6.75 | 44.4 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 19:35:24 | 20.33 | 1.254 | 18.92 | 12.393 | 6.76 | 44.1 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 19:40:24 | 20.33 | 1.255 | 18.92 | 12.39 | 6.76 | 44.1 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 19:45:24 | 20.33 | 1.254 | 18.92 | 12.392 | 6.76 | 44 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 19:50:24 | 20.33 | 1.255 | 18.92 | 12.389 | 6.75 | 44.7 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 19:55:24 | 20.33 | 1.254 | 18.92 | 12.387 | 6.75 | 44.7 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 20:00:24 | 20.33 | 1.255 | 18.91 | 12.385 | 6.75 | 44.6 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 20:05:24 | 20.33 | 1.255 | 18.91 | 12.382 | 6.76 | 44.3 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 20:10:24 | 20.33 | 1.255 | 18.91 | 12.379 | 6.75 | 44.6 | 21 | 2.4 | 0.22 |
| 4/14/2012 | 20:15:24 | 20.33 | 1.254 | 18.91 | 12.379 | 6.75 | 44.8 | 22 | 2.4 | 0.22 |
| 4/14/2012 | 20:20:24 | 20.33 | 1.255 | 18.91 | 12.377 | 6.75 | 44.9 | 23 | 2.4 | 0.22 |
| 4/14/2012 | 20:25:24 | 20.33 | 1.254 | 18.91 | 12.373 | 6.76 | 44.1 | 20 | 2.4 | 0.22 |
| 4/14/2012 | 20:30:24 | 20.33 | 1.254 | 18.91 | 12.372 | 6.76 | 43.9 | 20 | 2.4 | 0.22 |
| 4/14/2012 | 20:35:24 | 20.33 | 1.255 | 18.91 | 12.369 | 6.76 | 44.1 | 20 | 2.4 | 0.22 |
| 4/14/2012 | 20:40:24 | 20.33 | 1.254 | 18.91 | 12.366 | 6.76 | 44 | 20 | 2.4 | 0.22 |
| 4/14/2012 | 20:45:24 | 20.33 | 1.254 | 18.91 | 12.366 | 6.76 | 44.1 | 20 | 2.4 | 0.22 |
| 4/14/2012 | 20:50:24 | 20.33 | 1.254 | 18.9 | 12.364 | 6.76 | 44.1 | 20 | 2.4 | 0.22 |
| 4/14/2012 | 20:55:24 | 20.33 | 1.254 | 18.9 | 12.36 | 6.75 | 44.6 | 21 | 2.4 | 0.22 |
| 4/14/2012 | 21:00:24 | 20.33 | 1.254 | 18.9 | 12.357 | 6.76 | 44.1 | 20 | 2.4 | 0.22 |
| 4/14/2012 | 21:05:24 | 20.33 | 1.254 | 18.9 | 12.354 | 6.75 | 44.7 | 21 | 2.4 | 0.22 |
| 4/14/2012 | 21:10:24 | 20.33 | 1.254 | 18.9 | 12.35 | 6.76 | 44.3 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 21:15:24 | 20.33 | 1.254 | 18.9 | 12.349 | 6.75 | 44.4 | 20 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 21:20:24 | 20.33 | 1.254 | 18.9 | 12.347 | 6.76 | 44.1 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 21:25:24 | 20.33 | 1.254 | 18.9 | 12.345 | 6.77 | 43.8 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 21:30:24 | 20.33 | 1.254 | 18.9 | 12.343 | 6.76 | 43.8 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 21:35:24 | 20.33 | 1.254 | 18.9 | 12.344 | 6.76 | 44 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 21:40:24 | 20.33 | 1.254 | 18.89 | 12.339 | 6.76 | 43.9 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 21:45:24 | 20.33 | 1.254 | 18.89 | 12.337 | 6.76 | 44.1 | 20 | 2.4 | 0.22 |
| 4/14/2012 | 21:50:24 | 20.33 | 1.254 | 18.89 | 12.333 | 6.75 | 44.5 | 21 | 2.4 | 0.22 |
| 4/14/2012 | 21:55:24 | 20.33 | 1.254 | 18.89 | 12.333 | 6.76 | 44.1 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 22:00:24 | 20.33 | 1.254 | 18.89 | 12.332 | 6.75 | 44.5 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 22:05:24 | 20.33 | 1.254 | 18.89 | 12.331 | 6.75 | 44.5 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 22:10:24 | 20.33 | 1.254 | 18.89 | 12.329 | 6.76 | 44.3 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 22:15:24 | 20.33 | 1.254 | 18.89 | 12.329 | 6.76 | 44.1 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 22:20:24 | 20.33 | 1.254 | 18.89 | 12.328 | 6.76 | 44.2 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 22:25:24 | 20.33 | 1.254 | 18.89 | 12.327 | 6.76 | 44.4 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 22:30:24 | 20.33 | 1.254 | 18.89 | 12.322 | 6.75 | 44.4 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 22:35:24 | 20.33 | 1.254 | 18.89 | 12.322 | 6.76 | 44.4 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 22:40:24 | 20.33 | 1.254 | 18.89 | 12.319 | 6.76 | 44.3 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 22:45:24 | 20.33 | 1.253 | 18.89 | 12.319 | 6.76 | 44 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 22:50:24 | 20.33 | 1.254 | 18.88 | 12.315 | 6.76 | 43.9 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 22:55:24 | 20.33 | 1.254 | 18.88 | 12.314 | 6.76 | 44.1 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 23:00:24 | 20.33 | 1.254 | 18.88 | 12.311 | 6.76 | 44.4 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 23:05:24 | 20.33 | 1.254 | 18.88 | 12.312 | 6.75 | 44.4 | 19 | 2.4 | 0.22 |
| 4/14/2012 | 23:10:24 | 20.33 | 1.254 | 18.88 | 12.309 | 6.75 | 44.6 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 23:15:24 | 20.33 | 1.254 | 18.88 | 12.31 | 6.75 | 44.4 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 23:20:24 | 20.33 | 1.253 | 18.88 | 12.309 | 6.75 | 44.5 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 23:25:24 | 20.33 | 1.253 | 18.88 | 12.307 | 6.75 | 44.4 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 23:30:24 | 20.33 | 1.253 | 18.88 | 12.306 | 6.75 | 44.4 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 23:35:24 | 20.33 | 1.254 | 18.88 | 12.306 | 6.76 | 44.1 | 18 | 2.4 | 0.22 |
| 4/14/2012 | 23:40:24 | 20.33 | 1.253 | 18.88 | 12.304 | 6.76 | 44.1 | 17 | 2.4 | 0.22 |
| 4/14/2012 | 23:45:24 | 20.33 | 1.253 | 18.88 | 12.301 | 6.76 | 44 | 17 | 2.4 | 0.22 |
| 4/14/2012 | 23:50:24 | 20.33 | 1.253 | 18.88 | 12.297 | 6.76 | 44 | 17 | 2.4 | 0.22 |
| 4/14/2012 | 23:55:24 | 20.33 | 1.253 | 18.87 | 12.293 | 6.76 | 44.1 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 0:00:24 | 20.33 | 1.253 | 18.87 | 12.293 | 6.76 | 44.1 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 0:10:24 | 20.33 | 1.253 | 18.88 | 12.295 | 6.76 | 44.4 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 0:15:24 | 20.33 | 1.253 | 18.87 | 12.293 | 6.76 | 43.9 | 20 | 2.4 | 0.22 |
| 4/15/2012 | 0:20:24 | 20.33 | 1.253 | 18.87 | 12.294 | 6.76 | 43.8 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 0:25:24 | 20.33 | 1.253 | 18.87 | 12.294 | 6.77 | 43.6 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 0:30:24 | 20.33 | 1.253 | 18.87 | 12.294 | 6.76 | 43.9 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 0:35:24 | 20.33 | 1.253 | 18.87 | 12.294 | 6.77 | 43.5 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 0:40:24 | 20.33 | 1.253 | 18.87 | 12.292 | 6.76 | 43.9 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 0:45:24 | 20.33 | 1.253 | 18.87 | 12.29 | 6.77 | 43.8 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 0:50:24 | 20.33 | 1.253 | 18.87 | 12.29 | 6.76 | 43.9 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 0:55:24 | 20.33 | 1.253 | 18.87 | 12.29 | 6.77 | 43.8 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 1:00:24 | 20.33 | 1.253 | 18.87 | 12.287 | 6.76 | 43.9 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 1:05:24 | 20.33 | 1.253 | 18.87 | 12.286 | 6.77 | 43.6 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 1:10:24 | 20.33 | 1.253 | 18.87 | 12.287 | 6.77 | 43.5 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 1:15:24 | 20.33 | 1.253 | 18.87 | 12.287 | 6.76 | 43.8 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 1:20:24 | 20.33 | 1.253 | 18.87 | 12.287 | 6.76 | 43.9 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 1:25:24 | 20.33 | 1.253 | 18.87 | 12.286 | 6.77 | 43.6 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 1:30:24 | 20.33 | 1.253 | 18.87 | 12.282 | 6.76 | 43.9 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 1:35:24 | 20.33 | 1.253 | 18.87 | 12.282 | 6.77 | 43.8 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 1:40:24 | 20.33 | 1.253 | 18.87 | 12.28 | 6.76 | 43.9 | 20 | 2.4 | 0.22 |
| 4/15/2012 | 1:45:24 | 20.33 | 1.253 | 18.87 | 12.279 | 6.76 | 43.9 | 20 | 2.4 | 0.22 |
| 4/15/2012 | 1:50:24 | 20.33 | 1.253 | 18.87 | 12.277 | 6.76 | 44 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 1:55:24 | 20.33 | 1.253 | 18.87 | 12.276 | 6.76 | 44.1 | 20 | 2.4 | 0.22 |
| 4/15/2012 | 2:00:24 | 20.33 | 1.253 | 18.87 | 12.274 | 6.76 | 44.3 | 20 | 2.4 | 0.22 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 2:05:24 | 20.33 | 1.253 | 18.87 | 12.273 | 6.76 | 44 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 2:10:24 | 20.33 | 1.253 | 18.86 | 12.27 | 6.75 | 44.4 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 2:15:24 | 20.33 | 1.253 | 18.86 | 12.271 | 6.76 | 44.1 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 2:20:24 | 20.33 | 1.253 | 18.86 | 12.268 | 6.76 | 44.2 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 2:25:24 | 20.33 | 1.253 | 18.86 | 12.268 | 6.76 | 44.4 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 2:30:24 | 20.33 | 1.253 | 18.86 | 12.266 | 6.76 | 44.3 | 17 | 2.4 | 0.22 |
| 4/15/2012 | 2:35:24 | 20.33 | 1.253 | 18.86 | 12.267 | 6.75 | 44.4 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 2:40:24 | 20.33 | 1.253 | 18.86 | 12.266 | 6.76 | 44.3 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 2:45:24 | 20.33 | 1.253 | 18.86 | 12.265 | 6.76 | 44.3 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 2:50:24 | 20.33 | 1.253 | 18.86 | 12.263 | 6.75 | 44.7 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 2:55:24 | 20.33 | 1.253 | 18.86 | 12.263 | 6.75 | 44.6 | 19 | 2.4 | 0.22 |
| 4/15/2012 | 3:00:24 | 20.33 | 1.253 | 18.86 | 12.261 | 6.75 | 44.4 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 3:05:24 | 20.33 | 1.253 | 18.86 | 12.262 | 6.75 | 44.5 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 3:10:24 | 20.33 | 1.253 | 18.86 | 12.265 | 6.76 | 44.3 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 3:15:24 | 20.33 | 1.253 | 18.86 | 12.262 | 6.76 | 44.2 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 3:20:24 | 20.33 | 1.253 | 18.86 | 12.261 | 6.77 | 43.8 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 3:25:24 | 20.33 | 1.253 | 18.86 | 12.261 | 6.77 | 43.5 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 3:30:24 | 20.33 | 1.253 | 18.86 | 12.259 | 6.78 | 43.2 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 3:35:24 | 20.33 | 1.253 | 18.86 | 12.261 | 6.78 | 43.2 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 3:40:24 | 20.33 | 1.253 | 18.86 | 12.258 | 6.78 | 43.2 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 3:45:24 | 20.33 | 1.253 | 18.86 | 12.259 | 6.78 | 43.2 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 3:50:24 | 20.33 | 1.253 | 18.86 | 12.26 | 6.78 | 43.2 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 3:55:24 | 20.33 | 1.254 | 18.86 | 12.258 | 6.78 | 43.1 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 4:00:24 | 20.33 | 1.253 | 18.86 | 12.261 | 6.78 | 42.8 | 17 | 2.4 | 0.22 |
| 4/15/2012 | 4:05:24 | 20.33 | 1.253 | 18.86 | 12.26 | 6.78 | 43 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 4:10:24 | 20.33 | 1.253 | 18.86 | 12.26 | 6.77 | 43.3 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 4:15:24 | 20.33 | 1.253 | 18.86 | 12.26 | 6.78 | 43.2 | 18 | 2.4 | 0.22 |
| 4/15/2012 | 4:20:24 | 20.33 | 1.253 | 18.86 | 12.26 | 6.78 | 43 | 17 | 2.4 | 0.22 |
| 4/15/2012 | 4:25:24 | 20.33 | 1.253 | 18.86 | 12.261 | 6.78 | 42.8 | 17 | 2.4 | 0.22 |
| 4/15/2012 | 4:30:24 | 20.33 | 1.254 | 18.86 | 12.261 | 6.78 | 42.7 | 16 | 2.4 | 0.22 |
| 4/15/2012 | 4:35:24 | 20.33 | 1.253 | 18.86 | 12.259 | 6.78 | 43 | 17 | 2.4 | 0.22 |
| 4/15/2012 | 4:40:24 | 20.33 | 1.254 | 18.86 | 12.259 | 6.78 | 42.9 | 17 | 2.4 | 0.22 |
| 4/15/2012 | 4:45:24 | 20.33 | 1.254 | 18.86 | 12.26 | 6.78 | 42.8 | 17 | 2.4 | 0.22 |
| 4/15/2012 | 4:50:24 | 20.33 | 1.253 | 18.86 | 12.259 | 6.79 | 42.5 | 16 | 2.4 | 0.22 |
| 4/15/2012 | 4:55:24 | 20.33 | 1.254 | 18.86 | 12.26 | 6.78 | 42.8 | 17 | 2.4 | 0.22 |
| 4/15/2012 | 5:00:24 | 20.33 | 1.254 | 18.86 | 12.26 | 6.78 | 42.8 | 16 | 2.4 | 0.22 |
| 4/15/2012 | 5:05:24 | 20.33 | 1.254 | 18.86 | 12.259 | 6.79 | 42.5 | 16 | 2.4 | 0.22 |
| 4/15/2012 | 5:10:24 | 20.33 | 1.253 | 18.86 | 12.263 | 6.79 | 42.5 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 5:15:24 | 20.33 | 1.254 | 18.86 | 12.263 | 6.79 | 42.5 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 5:20:24 | 20.33 | 1.254 | 18.86 | 12.265 | 6.79 | 42.5 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 5:25:24 | 20.33 | 1.254 | 18.86 | 12.266 | 6.79 | 42.4 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 5:30:24 | 20.33 | 1.254 | 18.86 | 12.265 | 6.79 | 42.5 | 16 | 2.4 | 0.22 |
| 4/15/2012 | 5:35:24 | 20.33 | 1.254 | 18.86 | 12.266 | 6.79 | 42.3 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 5:40:24 | 20.33 | 1.254 | 18.86 | 12.269 | 6.79 | 42.3 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 5:45:24 | 20.33 | 1.254 | 18.86 | 12.268 | 6.79 | 42.4 | 16 | 2.4 | 0.22 |
| 4/15/2012 | 5:50:24 | 20.33 | 1.254 | 18.86 | 12.269 | 6.78 | 43 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 5:55:24 | 20.33 | 1.254 | 18.86 | 12.271 | 6.78 | 42.8 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 6:00:24 | 20.33 | 1.253 | 18.87 | 12.273 | 6.78 | 43.2 | 16 | 2.4 | 0.22 |
| 4/15/2012 | 6:05:24 | 20.33 | 1.253 | 18.87 | 12.275 | 6.78 | 42.8 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 6:10:24 | 20.33 | 1.254 | 18.87 | 12.274 | 6.78 | 43 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 6:15:24 | 20.33 | 1.254 | 18.87 | 12.277 | 6.78 | 43.2 | 16 | 2.4 | 0.22 |
| 4/15/2012 | 6:20:24 | 20.33 | 1.254 | 18.87 | 12.276 | 6.78 | 43 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 6:25:24 | 20.33 | 1.254 | 18.87 | 12.277 | 6.78 | 43.2 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 6:30:24 | 20.33 | 1.254 | 18.87 | 12.28 | 6.78 | 43.1 | 16 | 2.4 | 0.22 |
| 4/15/2012 | 6:35:24 | 20.33 | 1.254 | 18.87 | 12.282 | 6.78 | 43 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 6:40:24 | 20.33 | 1.254 | 18.87 | 12.282 | 6.78 | 43 | 15 | 2.4 | 0.22 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 6:45:24 | 20.33 | 1.254 | 18.87 | 12.282 | 6.78 | 42.8 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 6:50:24 | 20.33 | 1.254 | 18.87 | 12.284 | 6.78 | 43 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 6:55:24 | 20.33 | 1.254 | 18.87 | 12.286 | 6.78 | 42.8 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 7:00:24 | 20.33 | 1.254 | 18.87 | 12.284 | 6.78 | 42.8 | 15 | 2.4 | 0.22 |
| 4/15/2012 | 7:05:24 | 20.33 | 1.254 | 18.87 | 12.285 | 6.78 | 42.9 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 7:10:24 | 20.33 | 1.254 | 18.87 | 12.288 | 6.78 | 42.8 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 7:15:24 | 20.33 | 1.254 | 18.87 | 12.289 | 6.78 | 42.7 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 7:20:24 | 20.33 | 1.254 | 18.87 | 12.29 | 6.78 | 43.1 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 7:25:24 | 20.33 | 1.253 | 18.87 | 12.292 | 6.78 | 43.2 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 7:30:24 | 20.33 | 1.254 | 18.87 | 12.293 | 6.77 | 43.3 | 13 | 2.4 | 0.22 |
| 4/15/2012 | 7:35:24 | 20.33 | 1.254 | 18.87 | 12.294 | 6.78 | 43.1 | 13 | 2.4 | 0.22 |
| 4/15/2012 | 7:40:24 | 20.33 | 1.254 | 18.87 | 12.294 | 6.78 | 43 | 13 | 2.4 | 0.22 |
| 4/15/2012 | 7:45:24 | 20.33 | 1.253 | 18.88 | 12.295 | 6.78 | 43.2 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 7:50:24 | 20.33 | 1.254 | 18.88 | 12.296 | 6.78 | 43.2 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 7:55:24 | 20.33 | 1.254 | 18.88 | 12.297 | 6.77 | 43.3 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 8:00:24 | 20.33 | 1.254 | 18.88 | 12.298 | 6.78 | 43.1 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 8:05:24 | 20.33 | 1.254 | 18.88 | 12.3 | 6.78 | 43.2 | 13 | 2.4 | 0.22 |
| 4/15/2012 | 8:10:24 | 20.33 | 1.254 | 18.88 | 12.301 | 6.78 | 43.1 | 13 | 2.4 | 0.22 |
| 4/15/2012 | 8:15:24 | 20.33 | 1.253 | 18.88 | 12.301 | 6.78 | 43.2 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 8:20:24 | 20.33 | 1.254 | 18.88 | 12.303 | 6.77 | 43.3 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 8:25:24 | 20.33 | 1.253 | 18.88 | 12.303 | 6.77 | 43.3 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 8:30:24 | 20.33 | 1.254 | 18.88 | 12.303 | 6.77 | 43.3 | 13 | 2.4 | 0.22 |
| 4/15/2012 | 8:35:24 | 20.33 | 1.253 | 18.88 | 12.302 | 6.77 | 43.3 | 13 | 2.4 | 0.22 |
| 4/15/2012 | 8:40:24 | 20.33 | 1.254 | 18.88 | 12.304 | 6.77 | 43.3 | 13 | 2.4 | 0.22 |
| 4/15/2012 | 8:45:24 | 20.33 | 1.254 | 18.88 | 12.302 | 6.78 | 43.1 | 12 | 2.4 | 0.22 |
| 4/15/2012 | 8:50:24 | 20.33 | 1.254 | 18.88 | 12.3 | 6.78 | 43.2 | 12 | 2.4 | 0.22 |
| 4/15/2012 | 8:55:24 | 20.33 | 1.253 | 18.88 | 12.299 | 6.77 | 43.3 | 12 | 2.4 | 0.22 |
| 4/15/2012 | 9:00:24 | 20.33 | 1.254 | 18.88 | 12.299 | 6.77 | 43.3 | 12 | 2.4 | 0.22 |
| 4/15/2012 | 9:05:24 | 20.33 | 1.254 | 18.88 | 12.295 | 6.78 | 42.8 | 12 | 2.4 | 0.22 |
| 4/15/2012 | 9:10:24 | 20.33 | 1.254 | 18.87 | 12.292 | 6.77 | 43.3 | 14 | 2.4 | 0.22 |
| 4/15/2012 | 9:15:24 | 20.33 | 1.253 | 18.87 | 12.288 | 6.78 | 43 | 12 | 2.4 | 0.22 |
| 4/15/2012 | 9:20:24 | 20.33 | 1.254 | 18.87 | 12.286 | 6.78 | 42.9 | 11 | 2.4 | 0.22 |
| 4/15/2012 | 9:25:24 | 20.33 | 1.253 | 18.87 | 12.286 | 6.78 | 43.1 | 11 | 2.4 | 0.22 |
| 4/15/2012 | 9:30:24 | 20.33 | 1.254 | 18.87 | 12.283 | 6.78 | 42.8 | 11 | 2.4 | 0.22 |
| 4/15/2012 | 9:35:24 | 20.33 | 1.254 | 18.87 | 12.282 | 6.78 | 43 | 11 | 2.4 | 0.22 |
| 4/15/2012 | 9:40:24 | 20.33 | 1.254 | 18.87 | 12.282 | 6.77 | 43.5 | 11 | 2.4 | 0.22 |
| 4/15/2012 | 9:45:24 | 20.33 | 1.253 | 18.87 | 12.28 | 6.77 | 43.5 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 9:50:24 | 20.33 | 1.254 | 18.87 | 12.278 | 6.77 | 43.6 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 9:55:24 | 20.33 | 1.254 | 18.87 | 12.277 | 6.77 | 43.6 | 11 | 2.4 | 0.22 |
| 4/15/2012 | 10:00:24 | 20.33 | 1.254 | 18.87 | 12.276 | 6.77 | 43.6 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 10:05:24 | 20.33 | 1.254 | 18.87 | 12.277 | 6.77 | 43.8 | 11 | 2.4 | 0.22 |
| 4/15/2012 | 10:10:24 | 20.33 | 1.254 | 18.87 | 12.274 | 6.77 | 43.8 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 10:15:24 | 20.33 | 1.254 | 18.87 | 12.275 | 6.77 | 43.5 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 10:20:24 | 20.33 | 1.254 | 18.87 | 12.274 | 6.77 | 43.7 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 10:25:24 | 20.33 | 1.253 | 18.87 | 12.273 | 6.77 | 43.8 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 10:30:24 | 20.33 | 1.254 | 18.87 | 12.272 | 6.77 | 43.8 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 10:35:24 | 20.33 | 1.254 | 18.86 | 12.27 | 6.77 | 43.5 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 10:40:24 | 20.33 | 1.254 | 18.86 | 12.269 | 6.77 | 43.8 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 10:45:24 | 20.33 | 1.254 | 18.86 | 12.267 | 6.76 | 43.9 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 10:50:24 | 20.33 | 1.254 | 18.86 | 12.265 | 6.76 | 44.1 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 10:55:24 | 20.33 | 1.253 | 18.86 | 12.264 | 6.76 | 44.1 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 11:00:24 | 20.33 | 1.253 | 18.86 | 12.263 | 6.76 | 44 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 11:05:24 | 20.33 | 1.253 | 18.86 | 12.264 | 6.76 | 44.3 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 11:10:24 | 20.33 | 1.253 | 18.86 | 12.262 | 6.75 | 44.7 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 11:15:24 | 20.33 | 1.253 | 18.86 | 12.263 | 6.75 | 44.9 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 11:20:24 | 20.33 | 1.253 | 18.86 | 12.265 | 6.75 | 44.7 | 8 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 11:25:24 | 20.33 | 1.253 | 18.86 | 12.263 | 6.75 | 44.7 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 11:30:24 | 20.33 | 1.253 | 18.86 | 12.258 | 6.74 | 45 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 11:35:24 | 20.33 | 1.253 | 18.86 | 12.26 | 6.75 | 44.8 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 11:40:24 | 20.33 | 1.253 | 18.86 | 12.256 | 6.74 | 45.1 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 11:45:24 | 20.33 | 1.253 | 18.86 | 12.255 | 6.74 | 45.3 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 11:50:24 | 20.33 | 1.253 | 18.86 | 12.256 | 6.74 | 45.5 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 11:55:24 | 20.33 | 1.253 | 18.86 | 12.256 | 6.73 | 45.7 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 12:00:24 | 20.33 | 1.253 | 18.86 | 12.256 | 6.74 | 45 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 12:05:24 | 20.33 | 1.253 | 18.86 | 12.254 | 6.74 | 45.2 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 12:10:24 | 20.33 | 1.253 | 18.86 | 12.252 | 6.74 | 45.4 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 12:15:24 | 20.33 | 1.253 | 18.86 | 12.251 | 6.74 | 45.2 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 12:20:24 | 20.33 | 1.253 | 18.85 | 12.249 | 6.75 | 45 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 12:25:24 | 20.33 | 1.253 | 18.86 | 12.251 | 6.74 | 45 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 12:30:24 | 20.33 | 1.253 | 18.85 | 12.248 | 6.74 | 45.3 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 12:35:24 | 20.33 | 1.253 | 18.86 | 12.251 | 6.73 | 45.7 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 12:40:24 | 20.33 | 1.253 | 18.86 | 12.251 | 6.74 | 45.4 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 12:45:24 | 20.33 | 1.253 | 18.86 | 12.25 | 6.74 | 45.2 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 12:50:24 | 20.33 | 1.253 | 18.85 | 12.248 | 6.73 | 45.6 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 12:55:24 | 20.33 | 1.253 | 18.85 | 12.247 | 6.74 | 45.2 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 13:00:24 | 20.33 | 1.253 | 18.86 | 12.249 | 6.74 | 45.3 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 13:05:24 | 20.33 | 1.253 | 18.85 | 12.249 | 6.74 | 45.2 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 13:10:24 | 20.33 | 1.253 | 18.85 | 12.248 | 6.74 | 45.3 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 13:15:24 | 20.33 | 1.253 | 18.85 | 12.248 | 6.74 | 45.5 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 13:20:24 | 20.33 | 1.253 | 18.85 | 12.247 | 6.74 | 45.2 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 13:25:24 | 20.33 | 1.253 | 18.85 | 12.245 | 6.73 | 45.6 | 9 | 2.4 | 0.21 |
| 4/15/2012 | 13:30:24 | 20.33 | 1.253 | 18.85 | 12.245 | 6.73 | 45.8 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 13:35:24 | 20.33 | 1.253 | 18.85 | 12.248 | 6.72 | 46.5 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 13:40:24 | 20.33 | 1.253 | 18.85 | 12.248 | 6.74 | 45.4 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 13:45:24 | 20.33 | 1.253 | 18.85 | 12.245 | 6.73 | 45.6 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 13:50:24 | 20.33 | 1.253 | 18.85 | 12.248 | 6.73 | 45.6 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 13:55:24 | 20.33 | 1.253 | 18.85 | 12.246 | 6.73 | 45.7 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 14:00:24 | 20.33 | 1.253 | 18.85 | 12.245 | 6.73 | 46 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 14:05:24 | 20.33 | 1.253 | 18.85 | 12.242 | 6.73 | 45.7 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 14:10:24 | 20.33 | 1.253 | 18.85 | 12.245 | 6.74 | 45.5 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 14:15:24 | 20.33 | 1.253 | 18.85 | 12.243 | 6.73 | 45.8 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 14:20:24 | 20.33 | 1.253 | 18.85 | 12.242 | 6.73 | 46 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 14:25:24 | 20.33 | 1.253 | 18.85 | 12.242 | 6.72 | 46.2 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 14:30:24 | 20.33 | 1.253 | 18.85 | 12.243 | 6.72 | 46.3 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 14:35:24 | 20.33 | 1.253 | 18.85 | 12.239 | 6.72 | 46.3 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 14:40:24 | 20.33 | 1.253 | 18.85 | 12.238 | 6.73 | 46.1 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 14:45:24 | 20.33 | 1.253 | 18.85 | 12.239 | 6.72 | 46.1 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 14:50:24 | 20.33 | 1.253 | 18.85 | 12.238 | 6.72 | 46.2 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 14:55:24 | 20.33 | 1.253 | 18.85 | 12.236 | 6.72 | 46.3 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 15:00:24 | 20.33 | 1.253 | 18.85 | 12.236 | 6.72 | 46.3 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 15:05:24 | 20.33 | 1.253 | 18.85 | 12.237 | 6.72 | 46.6 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 15:10:24 | 20.33 | 1.253 | 18.85 | 12.235 | 6.72 | 46.2 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 15:15:24 | 20.33 | 1.253 | 18.85 | 12.233 | 6.72 | 46.2 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 15:20:24 | 20.34 | 1.253 | 18.85 | 12.234 | 6.72 | 46.4 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 15:25:24 | 20.33 | 1.253 | 18.85 | 12.233 | 6.72 | 46.4 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 15:30:24 | 20.33 | 1.253 | 18.85 | 12.232 | 6.72 | 46.4 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 15:35:24 | 20.34 | 1.253 | 18.85 | 12.232 | 6.72 | 46.3 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 15:40:24 | 20.33 | 1.253 | 18.85 | 12.231 | 6.67 | 49.1 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 15:45:24 | 20.34 | 1.253 | 18.85 | 12.231 | 6.67 | 49.3 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 15:50:24 | 20.34 | 1.254 | 18.85 | 12.231 | 6.66 | 49.7 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 15:55:24 | 20.34 | 1.253 | 18.85 | 12.229 | 6.67 | 49.4 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 16:00:24 | 20.33 | 1.253 | 18.85 | 12.229 | 6.67 | 49.3 | 9 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 16:05:24 | 20.34 | 1.253 | 18.85 | 12.228 | 6.67 | 49.6 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 16:10:24 | 20.34 | 1.253 | 18.85 | 12.227 | 6.67 | 49.6 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 16:15:24 | 20.34 | 1.253 | 18.85 | 12.229 | 6.67 | 49.4 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 16:20:24 | 20.33 | 1.254 | 18.85 | 12.23 | 6.67 | 49.1 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 16:25:24 | 20.34 | 1.253 | 18.85 | 12.232 | 6.66 | 49.7 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 16:30:24 | 20.34 | 1.253 | 18.85 | 12.231 | 6.67 | 49.3 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 16:35:24 | 20.34 | 1.254 | 18.85 | 12.229 | 6.67 | 49.1 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 16:40:24 | 20.33 | 1.254 | 18.85 | 12.23 | 6.66 | 49.7 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 16:45:24 | 20.34 | 1.253 | 18.85 | 12.229 | 6.67 | 49.4 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 16:50:24 | 20.33 | 1.254 | 18.85 | 12.23 | 6.7 | 47.5 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 16:55:24 | 20.34 | 1.253 | 18.85 | 12.232 | 6.67 | 49.1 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 17:00:24 | 20.34 | 1.254 | 18.85 | 12.232 | 6.66 | 49.7 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 17:05:24 | 20.34 | 1.254 | 18.85 | 12.234 | 6.67 | 49.4 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 17:10:24 | 20.34 | 1.253 | 18.85 | 12.235 | 6.67 | 49.3 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 17:15:24 | 20.34 | 1.254 | 18.85 | 12.234 | 6.66 | 49.9 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 17:20:24 | 20.34 | 1.254 | 18.85 | 12.238 | 6.7 | 47.4 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 17:25:24 | 20.34 | 1.254 | 18.85 | 12.238 | 6.7 | 47.4 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 17:30:24 | 20.34 | 1.254 | 18.85 | 12.236 | 6.7 | 47.6 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 17:35:24 | 20.34 | 1.254 | 18.85 | 12.24 | 6.7 | 47.3 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 17:40:24 | 20.34 | 1.254 | 18.85 | 12.24 | 6.69 | 47.9 | 10 | 2.4 | 0.22 |
| 4/15/2012 | 17:45:24 | 20.34 | 1.254 | 18.85 | 12.24 | 6.7 | 47.4 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 17:50:24 | 20.34 | 1.254 | 18.85 | 12.241 | 6.7 | 47.7 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 17:55:24 | 20.34 | 1.254 | 18.85 | 12.242 | 6.69 | 48.1 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 18:00:24 | 20.34 | 1.254 | 18.85 | 12.244 | 6.69 | 48 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 18:05:24 | 20.34 | 1.254 | 18.85 | 12.244 | 6.69 | 48.3 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 18:10:24 | 20.34 | 1.254 | 18.85 | 12.245 | 6.68 | 48.5 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 18:15:24 | 20.34 | 1.254 | 18.85 | 12.246 | 6.69 | 48.1 | 9 | 2.4 | 0.22 |
| 4/15/2012 | 18:20:24 | 20.34 | 1.254 | 18.85 | 12.249 | 6.68 | 48.6 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 18:25:24 | 20.34 | 1.254 | 18.86 | 12.251 | 6.68 | 48.6 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 18:30:24 | 20.34 | 1.254 | 18.86 | 12.253 | 6.69 | 48 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 18:35:24 | 20.34 | 1.254 | 18.86 | 12.254 | 6.68 | 48.8 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 18:40:24 | 20.34 | 1.254 | 18.86 | 12.259 | 6.68 | 48.6 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 18:45:24 | 20.34 | 1.254 | 18.86 | 12.258 | 6.68 | 48.8 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 18:50:24 | 20.34 | 1.254 | 18.86 | 12.26 | 6.69 | 48.5 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 18:55:24 | 20.34 | 1.254 | 18.86 | 12.265 | 6.69 | 48.5 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 19:00:24 | 20.34 | 1.254 | 18.86 | 12.264 | 6.67 | 49.3 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 19:05:24 | 20.34 | 1.254 | 18.86 | 12.264 | 6.68 | 49 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 19:10:24 | 20.34 | 1.254 | 18.86 | 12.266 | 6.67 | 49.1 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 19:15:24 | 20.34 | 1.254 | 18.86 | 12.266 | 6.67 | 49.2 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 19:20:24 | 20.34 | 1.254 | 18.86 | 12.27 | 6.67 | 49.3 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 19:25:24 | 20.34 | 1.254 | 18.86 | 12.271 | 6.67 | 49.2 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 19:30:24 | 20.34 | 1.254 | 18.87 | 12.274 | 6.66 | 50 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 19:35:24 | 20.34 | 1.254 | 18.87 | 12.276 | 6.66 | 49.9 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 19:40:24 | 20.34 | 1.254 | 18.87 | 12.278 | 6.66 | 49.8 | 8 | 2.4 | 0.22 |
| 4/15/2012 | 19:45:24 | 20.34 | 1.254 | 18.87 | 12.277 | 6.66 | 49.9 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 19:50:24 | 20.34 | 1.254 | 18.87 | 12.279 | 6.67 | 49.6 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 19:55:24 | 20.34 | 1.254 | 18.87 | 12.28 | 6.66 | 49.7 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 20:00:24 | 20.34 | 1.254 | 18.87 | 12.281 | 6.66 | 49.9 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 20:05:24 | 20.34 | 1.254 | 18.87 | 12.285 | 6.66 | 50.2 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 20:10:24 | 20.34 | 1.254 | 18.87 | 12.285 | 6.66 | 49.8 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 20:15:24 | 20.34 | 1.254 | 18.87 | 12.284 | 6.66 | 50 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 20:20:24 | 20.34 | 1.254 | 18.87 | 12.288 | 6.66 | 50.1 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 20:25:24 | 20.34 | 1.254 | 18.87 | 12.287 | 6.65 | 50.7 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 20:30:24 | 20.34 | 1.254 | 18.87 | 12.286 | 6.65 | 50.7 | 6 | 2.4 | 0.22 |
| 4/15/2012 | 20:35:24 | 20.34 | 1.254 | 18.87 | 12.287 | 6.65 | 50.3 | 6 | 2.4 | 0.22 |
| 4/15/2012 | 20:40:24 | 20.34 | 1.254 | 18.87 | 12.286 | 6.65 | 50.5 | 6 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 20:45:24 | 20.34 | 1.254 | 18.87 | 12.286 | 6.64 | 51.4 | 6 | 2.4 | 0.22 |
| 4/15/2012 | 20:50:24 | 20.34 | 1.254 | 18.87 | 12.286 | 6.63 | 51.5 | 7 | 2.4 | 0.22 |
| 4/15/2012 | 20:55:24 | 20.33 | 1.254 | 18.87 | 12.285 | 6.64 | 51.1 | 6 | 2.4 | 0.22 |
| 4/15/2012 | 21:00:24 | 20.33 | 1.254 | 18.87 | 12.284 | 6.64 | 51 | 6 | 2.4 | 0.22 |
| 4/15/2012 | 21:05:24 | 20.34 | 1.254 | 18.87 | 12.281 | 6.63 | 51.6 | 5 | 2.4 | 0.22 |
| 4/15/2012 | 21:10:24 | 20.34 | 1.254 | 18.87 | 12.28 | 6.64 | 51.3 | 6 | 2.4 | 0.22 |
| 4/15/2012 | 21:15:24 | 20.33 | 1.254 | 18.87 | 12.281 | 6.63 | 51.8 | 5 | 2.4 | 0.22 |
| 4/15/2012 | 21:20:24 | 20.33 | 1.254 | 18.87 | 12.277 | 6.64 | 51.2 | 5 | 2.4 | 0.22 |
| 4/15/2012 | 21:25:24 | 20.33 | 1.254 | 18.87 | 12.276 | 6.63 | 51.6 | 5 | 2.4 | 0.22 |
| 4/15/2012 | 21:30:24 | 20.33 | 1.254 | 18.87 | 12.275 | 6.63 | 51.9 | 5 | 2.4 | 0.22 |
| 4/15/2012 | 21:35:24 | 20.33 | 1.254 | 18.87 | 12.272 | 6.63 | 51.5 | 5 | 2.4 | 0.22 |
| 4/15/2012 | 21:40:24 | 20.33 | 1.254 | 18.86 | 12.269 | 6.63 | 51.5 | 5 | 2.4 | 0.22 |
| 4/15/2012 | 21:45:24 | 20.33 | 1.254 | 18.86 | 12.265 | 6.63 | 51.8 | 4 | 2.4 | 0.22 |
| 4/15/2012 | 21:50:24 | 20.34 | 1.254 | 18.86 | 12.263 | 6.63 | 51.8 | 4 | 2.4 | 0.22 |
| 4/15/2012 | 21:55:24 | 20.33 | 1.254 | 18.86 | 12.263 | 6.62 | 52.2 | 4 | 2.4 | 0.22 |
| 4/15/2012 | 22:00:24 | 20.33 | 1.254 | 18.86 | 12.26 | 6.62 | 51.9 | 4 | 2.4 | 0.22 |
| 4/15/2012 | 22:05:24 | 20.33 | 1.254 | 18.86 | 12.257 | 6.62 | 52.2 | 4 | 2.4 | 0.22 |
| 4/15/2012 | 22:10:24 | 20.33 | 1.254 | 18.86 | 12.255 | 6.62 | 52.4 | 5 | 2.4 | 0.22 |
| 4/15/2012 | 22:15:24 | 20.33 | 1.254 | 18.86 | 12.252 | 6.62 | 52.4 | 4 | 2.4 | 0.22 |
| 4/15/2012 | 22:20:24 | 20.33 | 1.254 | 18.85 | 12.249 | 6.62 | 52.3 | 4 | 2.4 | 0.22 |
| 4/15/2012 | 22:25:24 | 20.33 | 1.254 | 18.85 | 12.247 | 6.63 | 51.9 | 4 | 2.4 | 0.22 |
| 4/15/2012 | 22:30:24 | 20.33 | 1.254 | 18.85 | 12.244 | 6.63 | 51.8 | 3 | 2.4 | 0.22 |
| 4/15/2012 | 22:35:24 | 20.33 | 1.254 | 18.85 | 12.243 | 6.61 | 52.7 | 3 | 2.4 | 0.22 |
| 4/15/2012 | 22:40:24 | 20.33 | 1.254 | 18.85 | 12.241 | 6.63 | 51.8 | 3 | 2.4 | 0.22 |
| 4/15/2012 | 22:45:24 | 20.33 | 1.254 | 18.85 | 12.239 | 6.62 | 52 | 3 | 2.4 | 0.22 |
| 4/15/2012 | 22:50:24 | 20.33 | 1.253 | 18.85 | 12.239 | 6.63 | 51.9 | 3 | 2.4 | 0.22 |
| 4/15/2012 | 22:55:24 | 20.33 | 1.254 | 18.85 | 12.237 | 6.63 | 51.7 | 3 | 2.4 | 0.22 |
| 4/15/2012 | 23:00:24 | 20.33 | 1.254 | 18.85 | 12.235 | 6.64 | 51.2 | 2 | 2.4 | 0.22 |
| 4/15/2012 | 23:05:24 | 20.33 | 1.254 | 18.85 | 12.232 | 6.64 | 51.1 | 3 | 2.4 | 0.22 |
| 4/15/2012 | 23:10:24 | 20.33 | 1.254 | 18.85 | 12.23 | 6.64 | 51 | 2 | 2.4 | 0.22 |
| 4/15/2012 | 23:15:24 | 20.33 | 1.254 | 18.85 | 12.228 | 6.64 | 51 | 2 | 2.4 | 0.22 |
| 4/15/2012 | 23:20:24 | 20.33 | 1.254 | 18.85 | 12.227 | 6.64 | 50.9 | 2 | 2.4 | 0.22 |
| 4/15/2012 | 23:25:24 | 20.33 | 1.254 | 18.84 | 12.225 | 6.64 | 51.2 | 2 | 2.4 | 0.22 |
| 4/15/2012 | 23:30:24 | 20.33 | 1.254 | 18.84 | 12.223 | 6.64 | 50.9 | 2 | 2.4 | 0.22 |
| 4/15/2012 | 23:35:24 | 20.33 | 1.254 | 18.84 | 12.221 | 6.65 | 50.8 | 2 | 2.4 | 0.22 |
| 4/15/2012 | 23:40:24 | 20.33 | 1.254 | 18.84 | 12.22 | 6.63 | 51.4 | 2 | 2.4 | 0.22 |
| 4/15/2012 | 23:45:24 | 20.33 | 1.254 | 18.84 | 12.218 | 6.64 | 50.8 | 1 | 2.4 | 0.22 |
| 4/15/2012 | 23:50:24 | 20.33 | 1.254 | 18.84 | 12.216 | 6.64 | 51.1 | 1 | 2.4 | 0.22 |
| 4/15/2012 | 23:55:24 | 20.33 | 1.253 | 18.84 | 12.216 | 6.65 | 50.5 | 1 | 2.4 | 0.22 |
| 4/16/2012 | 0:00:24 | 20.33 | 1.254 | 18.84 | 12.216 | 6.64 | 51.1 | 2 | 2.4 | 0.22 |
| 4/16/2012 | 0:05:24 | 20.33 | 1.254 | 18.84 | 12.215 | 6.64 | 50.8 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 0:10:24 | 20.33 | 1.254 | 18.84 | 12.213 | 6.64 | 51.1 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 0:15:24 | 20.33 | 1.254 | 18.84 | 12.212 | 6.65 | 50.7 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 0:20:24 | 20.33 | 1.254 | 18.84 | 12.211 | 6.64 | 51 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 0:25:24 | 20.33 | 1.254 | 18.84 | 12.21 | 6.65 | 50.5 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 0:30:24 | 20.33 | 1.254 | 18.84 | 12.21 | 6.64 | 51 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 0:35:24 | 20.33 | 1.254 | 18.84 | 12.207 | 6.65 | 50.7 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 0:40:24 | 20.33 | 1.254 | 18.84 | 12.205 | 6.65 | 50.7 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 0:45:24 | 20.33 | 1.253 | 18.84 | 12.204 | 6.64 | 50.8 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 0:50:24 | 20.33 | 1.254 | 18.83 | 12.203 | 6.64 | 51.1 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 0:55:24 | 20.33 | 1.254 | 18.83 | 12.201 | 6.63 | 51.8 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 1:00:24 | 20.33 | 1.254 | 18.84 | 12.203 | 6.64 | 51.1 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 1:05:24 | 20.33 | 1.254 | 18.83 | 12.201 | 6.64 | 51 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 1:10:24 | 20.34 | 1.254 | 18.84 | 12.205 | 6.64 | 51 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 1:15:24 | 20.33 | 1.254 | 18.83 | 12.202 | 6.64 | 51 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 1:20:24 | 20.33 | 1.254 | 18.83 | 12.199 | 6.63 | 51.7 | -1 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 1:25:24 | 20.33 | 1.254 | 18.83 | 12.2 | 6.63 | 51.4 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 1:30:24 | 20.34 | 1.254 | 18.83 | 12.197 | 6.64 | 51 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 1:35:24 | 20.33 | 1.254 | 18.83 | 12.197 | 6.63 | 51.4 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 1:40:24 | 20.34 | 1.254 | 18.83 | 12.196 | 6.64 | 51.3 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 1:45:24 | 20.34 | 1.254 | 18.83 | 12.197 | 6.64 | 51.3 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 1:50:24 | 20.33 | 1.254 | 18.83 | 12.196 | 6.64 | 51 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 1:55:24 | 20.34 | 1.254 | 18.83 | 12.192 | 6.64 | 51.2 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 2:00:24 | 20.34 | 1.254 | 18.83 | 12.191 | 6.63 | 51.4 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 2:05:24 | 20.34 | 1.253 | 18.83 | 12.191 | 6.63 | 51.8 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 2:10:24 | 20.34 | 1.254 | 18.83 | 12.189 | 6.63 | 51.4 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 2:15:24 | 20.33 | 1.253 | 18.83 | 12.187 | 6.63 | 51.6 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 2:20:24 | 20.33 | 1.254 | 18.83 | 12.188 | 6.63 | 51.9 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 2:25:24 | 20.34 | 1.254 | 18.83 | 12.189 | 6.63 | 51.7 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 2:30:24 | 20.33 | 1.254 | 18.83 | 12.186 | 6.63 | 51.5 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 2:35:24 | 20.34 | 1.254 | 18.83 | 12.187 | 6.64 | 51.3 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 2:40:24 | 20.33 | 1.254 | 18.83 | 12.186 | 6.64 | 51 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 2:45:24 | 20.34 | 1.254 | 18.83 | 12.184 | 6.64 | 51.3 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 2:50:24 | 20.34 | 1.254 | 18.83 | 12.183 | 6.64 | 51.1 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 2:55:24 | 20.34 | 1.254 | 18.83 | 12.18 | 6.64 | 51.3 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 3:00:24 | 20.34 | 1.254 | 18.83 | 12.181 | 6.64 | 50.9 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 3:05:24 | 20.34 | 1.254 | 18.82 | 12.178 | 6.63 | 51.5 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 3:10:24 | 20.34 | 1.254 | 18.82 | 12.178 | 6.63 | 51.5 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 3:15:24 | 20.34 | 1.254 | 18.83 | 12.179 | 6.63 | 51.7 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 3:20:24 | 20.34 | 1.254 | 18.82 | 12.177 | 6.63 | 51.9 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 3:25:24 | 20.34 | 1.253 | 18.82 | 12.174 | 6.61 | 52.6 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 3:30:24 | 20.34 | 1.254 | 18.82 | 12.174 | 6.62 | 52.2 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 3:35:24 | 20.34 | 1.253 | 18.82 | 12.174 | 6.63 | 51.8 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 3:40:24 | 20.34 | 1.254 | 18.82 | 12.171 | 6.63 | 51.8 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 3:45:24 | 20.34 | 1.254 | 18.82 | 12.172 | 6.63 | 51.8 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 3:50:24 | 20.34 | 1.254 | 18.82 | 12.171 | 6.62 | 52.2 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 3:55:24 | 20.34 | 1.254 | 18.82 | 12.173 | 6.62 | 52.5 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 4:00:24 | 20.34 | 1.254 | 18.82 | 12.173 | 6.63 | 51.9 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 4:05:24 | 20.34 | 1.254 | 18.82 | 12.172 | 6.63 | 51.7 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 4:10:24 | 20.34 | 1.254 | 18.82 | 12.174 | 6.61 | 52.6 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 4:15:24 | 20.34 | 1.254 | 18.82 | 12.174 | 6.62 | 52.3 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 4:20:24 | 20.34 | 1.253 | 18.82 | 12.175 | 6.61 | 52.7 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 4:25:24 | 20.34 | 1.254 | 18.82 | 12.175 | 6.62 | 52.2 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 4:30:24 | 20.34 | 1.254 | 18.82 | 12.174 | 6.62 | 52.4 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 4:35:24 | 20.34 | 1.254 | 18.82 | 12.175 | 6.6 | 53.4 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 4:40:24 | 20.34 | 1.254 | 18.82 | 12.177 | 6.6 | 53.1 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 4:45:24 | 20.34 | 1.254 | 18.82 | 12.176 | 6.61 | 52.8 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 4:50:24 | 20.34 | 1.254 | 18.82 | 12.178 | 6.6 | 53.4 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 4:55:24 | 20.34 | 1.254 | 18.82 | 12.176 | 6.61 | 53.1 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 5:00:24 | 20.34 | 1.254 | 18.82 | 12.178 | 6.61 | 52.9 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 5:05:24 | 20.34 | 1.254 | 18.83 | 12.181 | 6.61 | 53 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 5:10:24 | 20.34 | 1.254 | 18.83 | 12.183 | 6.6 | 53.5 | 0 | 2.4 | 0.22 |
| 4/16/2012 | 5:15:24 | 20.34 | 1.254 | 18.83 | 12.184 | 6.61 | 52.9 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 5:20:24 | 20.34 | 1.254 | 18.83 | 12.184 | 6.61 | 53 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 5:25:24 | 20.34 | 1.254 | 18.83 | 12.185 | 6.61 | 52.7 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 5:30:24 | 20.34 | 1.254 | 18.83 | 12.187 | 6.6 | 53.3 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 5:35:24 | 20.34 | 1.254 | 18.83 | 12.189 | 6.61 | 52.9 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 5:40:24 | 20.34 | 1.254 | 18.83 | 12.19 | 6.6 | 53.1 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 5:45:24 | 20.34 | 1.254 | 18.83 | 12.192 | 6.6 | 53.3 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 5:50:24 | 20.34 | 1.254 | 18.83 | 12.195 | 6.61 | 52.6 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 5:55:24 | 20.34 | 1.254 | 18.83 | 12.195 | 6.6 | 53.6 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 6:00:24 | 20.34 | 1.254 | 18.83 | 12.198 | 6.59 | 54.1 | -1 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 6:05:24 | 20.34 | 1.254 | 18.83 | 12.199 | 6.58 | 54.4 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 6:10:24 | 20.34 | 1.254 | 18.83 | 12.2 | 6.59 | 53.9 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 6:15:24 | 20.34 | 1.254 | 18.84 | 12.205 | 6.58 | 54.4 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 6:20:24 | 20.34 | 1.254 | 18.84 | 12.207 | 6.59 | 54 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 6:25:24 | 20.34 | 1.254 | 18.84 | 12.209 | 6.59 | 53.8 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 6:30:24 | 20.34 | 1.253 | 18.84 | 12.212 | 6.6 | 53.1 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 6:35:24 | 20.34 | 1.254 | 18.84 | 12.213 | 6.61 | 53 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 6:40:24 | 20.34 | 1.254 | 18.84 | 12.217 | 6.59 | 54 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 6:45:24 | 20.34 | 1.254 | 18.84 | 12.22 | 6.59 | 53.7 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 6:50:24 | 20.34 | 1.254 | 18.84 | 12.222 | 6.6 | 53.4 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 6:55:24 | 20.34 | 1.254 | 18.84 | 12.225 | 6.6 | 53.2 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 7:00:24 | 20.34 | 1.254 | 18.85 | 12.226 | 6.6 | 53.4 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 7:05:24 | 20.34 | 1.254 | 18.85 | 12.23 | 6.6 | 53.6 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 7:10:24 | 20.34 | 1.254 | 18.85 | 12.234 | 6.59 | 54.1 | 1 | 2.4 | 0.22 |
| 4/16/2012 | 7:15:24 | 20.34 | 1.254 | 18.85 | 12.235 | 6.6 | 53.2 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 7:20:24 | 20.34 | 1.254 | 18.85 | 12.239 | 6.6 | 53.5 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 7:25:24 | 20.34 | 1.254 | 18.85 | 12.24 | 6.6 | 53.2 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 7:30:24 | 20.34 | 1.254 | 18.85 | 12.243 | 6.6 | 53.4 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 7:35:24 | 20.34 | 1.254 | 18.85 | 12.245 | 6.61 | 53 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 7:40:24 | 20.34 | 1.254 | 18.86 | 12.251 | 6.6 | 53.5 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 7:45:24 | 20.34 | 1.254 | 18.86 | 12.254 | 6.61 | 52.9 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 7:50:24 | 20.34 | 1.254 | 18.85 | 12.246 | 6.6 | 53.5 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 7:55:24 | 20.34 | 1.254 | 18.85 | 12.249 | 6.61 | 53.1 | -3 | 2.4 | 0.22 |
| 4/16/2012 | 8:00:24 | 20.34 | 1.254 | 18.86 | 12.251 | 6.6 | 53.2 | -1 | 2.4 | 0.22 |
| 4/16/2012 | 8:05:24 | 20.34 | 1.254 | 18.86 | 12.255 | 6.59 | 54 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 8:10:24 | 20.34 | 1.254 | 18.86 | 12.257 | 6.6 | 53.4 | -3 | 2.4 | 0.22 |
| 4/16/2012 | 8:15:24 | 20.34 | 1.254 | 18.86 | 12.26 | 6.6 | 53.5 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 8:20:24 | 20.34 | 1.254 | 18.86 | 12.264 | 6.6 | 53.5 | -2 | 2.4 | 0.22 |
| 4/16/2012 | 8:25:24 | 20.34 | 1.254 | 18.86 | 12.267 | 6.59 | 54.1 | -3 | 2.4 | 0.22 |
| 4/16/2012 | 8:30:24 | 20.34 | 1.254 | 18.86 | 12.269 | 6.59 | 53.8 | -3 | 2.4 | 0.22 |
| 4/16/2012 | 8:35:24 | 20.34 | 1.254 | 18.86 | 12.272 | 6.59 | 54.1 | -3 | 2.4 | 0.22 |
| 4/16/2012 | 8:40:24 | 20.34 | 1.254 | 18.87 | 12.272 | 6.59 | 54 | -3 | 2.4 | 0.22 |
| 4/16/2012 | 8:45:24 | 20.34 | 1.254 | 18.87 | 12.274 | 6.59 | 53.8 | -3 | 2.4 | 0.22 |
| 4/16/2012 | 8:50:24 | 20.34 | 1.254 | 18.87 | 12.276 | 6.59 | 54 | -3 | 2.4 | 0.22 |
| 4/16/2012 | 8:55:24 | 20.34 | 1.254 | 18.87 | 12.279 | 6.59 | 53.7 | -3 | 2.4 | 0.22 |
| 4/16/2012 | 9:00:24 | 20.34 | 1.254 | 18.87 | 12.277 | 6.59 | 54 | -3 | 2.4 | 0.22 |
| 4/16/2012 | 9:05:24 | 20.34 | 1.254 | 18.87 | 12.276 | 6.6 | 53.6 | -3 | 2.4 | 0.22 |
| 4/16/2012 | 9:10:24 | 20.34 | 1.254 | 18.87 | 12.278 | 6.6 | 53.2 | -4 | 2.4 | 0.22 |
| 4/16/2012 | 9:15:24 | 20.34 | 1.254 | 18.87 | 12.275 | 6.59 | 53.8 | -4 | 2.4 | 0.22 |
| 4/16/2012 | 9:20:24 | 20.34 | 1.254 | 18.87 | 12.275 | 6.59 | 53.7 | -4 | 2.4 | 0.22 |
| 4/16/2012 | 9:25:24 | 20.34 | 1.254 | 18.87 | 12.276 | 6.6 | 53.6 | -4 | 2.4 | 0.22 |
| 4/16/2012 | 9:30:24 | 20.34 | 1.254 | 18.87 | 12.273 | 6.6 | 53.4 | -4 | 2.4 | 0.22 |
| 4/16/2012 | 9:35:24 | 20.34 | 1.254 | 18.87 | 12.274 | 6.61 | 52.9 | -5 | 2.4 | 0.22 |
| 4/16/2012 | 9:40:24 | 20.34 | 1.254 | 18.87 | 12.273 | 6.6 | 53.2 | -5 | 2.4 | 0.22 |
| 4/16/2012 | 9:45:24 | 20.34 | 1.254 | 18.86 | 12.269 | 6.6 | 53.1 | -5 | 2.4 | 0.22 |
| 4/16/2012 | 9:50:24 | 20.34 | 1.254 | 18.86 | 12.269 | 6.61 | 53 | -6 | 2.4 | 0.22 |
| 4/16/2012 | 9:55:24 | 20.34 | 1.254 | 18.86 | 12.267 | 6.59 | 54.2 | -6 | 2.4 | 0.22 |
| 4/16/2012 | 10:00:24 | 20.34 | 1.254 | 18.86 | 12.267 | 6.6 | 53.1 | -6 | 2.4 | 0.22 |
| 4/16/2012 | 10:05:24 | 20.34 | 1.254 | 18.86 | 12.265 | 6.6 | 53.2 | -6 | 2.4 | 0.22 |
| 4/16/2012 | 10:10:24 | 20.34 | 1.254 | 18.86 | 12.265 | 6.6 | 53.3 | -6 | 2.4 | 0.22 |
| 4/16/2012 | 10:15:24 | 20.34 | 1.254 | 18.86 | 12.262 | 6.59 | 54 | -4 | 2.4 | 0.22 |
| 4/16/2012 | 10:20:24 | 20.34 | 1.254 | 18.86 | 12.259 | 6.59 | 53.9 | -6 | 2.4 | 0.22 |
| 4/16/2012 | 10:25:24 | 20.34 | 1.254 | 18.86 | 12.257 | 6.58 | 54.4 | -5 | 2.4 | 0.22 |
| 4/16/2012 | 10:30:24 | 20.34 | 1.254 | 18.86 | 12.256 | 6.6 | 53.6 | -6 | 2.4 | 0.22 |
| 4/16/2012 | 10:35:24 | 20.34 | 1.254 | 18.86 | 12.253 | 6.59 | 53.8 | -6 | 2.4 | 0.22 |
| 4/16/2012 | 10:40:24 | 20.34 | 1.254 | 18.86 | 12.252 | 6.59 | 54.1 | -6 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 10:45:24 | 20.34 | 1.253 | 18.86 | 12.253 | 6.58 | 54.4 | -7 | 2.4 | 0.22 |
| 4/16/2012 | 10:50:24 | 20.34 | 1.254 | 18.85 | 12.248 | 6.59 | 54.1 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 10:55:24 | 20.34 | 1.254 | 18.86 | 12.251 | 6.59 | 54.1 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 11:00:24 | 20.34 | 1.254 | 18.85 | 12.245 | 6.59 | 54.1 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 11:05:24 | 20.34 | 1.254 | 18.85 | 12.246 | 6.59 | 54.1 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 11:10:24 | 20.34 | 1.254 | 18.85 | 12.242 | 6.59 | 54.2 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 11:15:24 | 20.34 | 1.254 | 18.85 | 12.238 | 6.59 | 53.8 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 11:20:24 | 20.34 | 1.254 | 18.85 | 12.239 | 6.59 | 54.3 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 11:25:24 | 20.34 | 1.254 | 18.85 | 12.234 | 6.59 | 54.3 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 11:30:24 | 20.34 | 1.254 | 18.85 | 12.232 | 6.59 | 53.7 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 11:35:24 | 20.34 | 1.254 | 18.85 | 12.232 | 6.58 | 54.5 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 11:40:24 | 20.34 | 1.254 | 18.85 | 12.232 | 6.57 | 54.9 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 11:45:24 | 20.34 | 1.254 | 18.85 | 12.229 | 6.59 | 54 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 11:50:24 | 20.34 | 1.254 | 18.85 | 12.227 | 6.6 | 53.3 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 11:55:24 | 20.34 | 1.254 | 18.84 | 12.225 | 6.6 | 53.2 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 12:00:24 | 20.34 | 1.254 | 18.85 | 12.226 | 6.59 | 53.7 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 12:05:24 | 20.34 | 1.254 | 18.84 | 12.222 | 6.6 | 53.6 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 12:10:24 | 20.34 | 1.254 | 18.84 | 12.219 | 6.6 | 53.2 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 12:15:24 | 20.34 | 1.254 | 18.84 | 12.215 | 6.61 | 53 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 12:20:24 | 20.34 | 1.254 | 18.84 | 12.215 | 6.59 | 53.7 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 12:25:24 | 20.34 | 1.254 | 18.84 | 12.213 | 6.6 | 53.4 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 12:30:24 | 20.34 | 1.254 | 18.84 | 12.212 | 6.6 | 53.6 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 12:35:24 | 20.34 | 1.254 | 18.84 | 12.213 | 6.6 | 53.6 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 12:40:24 | 20.34 | 1.254 | 18.84 | 12.209 | 6.6 | 53.2 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 12:45:24 | 20.34 | 1.254 | 18.84 | 12.208 | 6.59 | 53.9 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 12:50:24 | 20.34 | 1.254 | 18.84 | 12.209 | 6.6 | 53.5 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 12:55:24 | 20.34 | 1.254 | 18.84 | 12.206 | 6.6 | 53.5 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 13:00:24 | 20.34 | 1.254 | 18.83 | 12.201 | 6.61 | 52.9 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 13:05:24 | 20.34 | 1.254 | 18.83 | 12.202 | 6.6 | 53.6 | -11 | 2.4 | 0.22 |
| 4/16/2012 | 13:10:24 | 20.34 | 1.254 | 18.83 | 12.201 | 6.6 | 53.6 | -11 | 2.4 | 0.22 |
| 4/16/2012 | 13:15:24 | 20.34 | 1.254 | 18.83 | 12.199 | 6.6 | 53.5 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 13:20:24 | 20.34 | 1.254 | 18.83 | 12.199 | 6.61 | 53.1 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 13:25:24 | 20.34 | 1.254 | 18.83 | 12.197 | 6.59 | 54 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 13:30:24 | 20.34 | 1.254 | 18.83 | 12.196 | 6.59 | 53.7 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 13:35:24 | 20.34 | 1.254 | 18.83 | 12.195 | 6.6 | 53.3 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 13:40:24 | 20.34 | 1.254 | 18.83 | 12.194 | 6.59 | 53.8 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 13:45:24 | 20.34 | 1.254 | 18.83 | 12.193 | 6.58 | 54.3 | -7 | 2.4 | 0.22 |
| 4/16/2012 | 13:50:24 | 20.34 | 1.254 | 18.83 | 12.192 | 6.59 | 54 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 13:55:24 | 20.34 | 1.254 | 18.83 | 12.19 | 6.59 | 53.9 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 14:00:24 | 20.34 | 1.254 | 18.83 | 12.191 | 6.6 | 53.2 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 14:05:24 | 20.34 | 1.254 | 18.83 | 12.19 | 6.6 | 53.2 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 14:10:24 | 20.34 | 1.254 | 18.83 | 12.189 | 6.6 | 53.5 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 14:15:24 | 20.34 | 1.254 | 18.83 | 12.188 | 6.59 | 54 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 14:20:24 | 20.34 | 1.254 | 18.83 | 12.186 | 6.59 | 53.8 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 14:25:24 | 20.34 | 1.254 | 18.83 | 12.187 | 6.59 | 53.8 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 14:30:24 | 20.34 | 1.254 | 18.83 | 12.187 | 6.59 | 54.2 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 14:35:24 | 20.34 | 1.254 | 18.83 | 12.186 | 6.58 | 54.3 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 14:40:24 | 20.34 | 1.254 | 18.83 | 12.183 | 6.58 | 54.7 | -7 | 2.4 | 0.22 |
| 4/16/2012 | 14:45:24 | 20.34 | 1.254 | 18.83 | 12.187 | 6.59 | 54.1 | -7 | 2.4 | 0.22 |
| 4/16/2012 | 14:50:24 | 20.34 | 1.254 | 18.83 | 12.182 | 6.58 | 54.3 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 14:55:24 | 20.34 | 1.254 | 18.83 | 12.182 | 6.6 | 53.5 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 15:00:24 | 20.34 | 1.254 | 18.82 | 12.178 | 6.59 | 54.1 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 15:05:24 | 20.34 | 1.254 | 18.82 | 12.177 | 6.58 | 54.6 | -7 | 2.4 | 0.22 |
| 4/16/2012 | 15:10:24 | 20.34 | 1.254 | 18.82 | 12.179 | 6.58 | 54.4 | -7 | 2.4 | 0.22 |
| 4/16/2012 | 15:15:24 | 20.34 | 1.254 | 18.83 | 12.18 | 6.58 | 54.6 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 15:20:24 | 20.34 | 1.254 | 18.82 | 12.178 | 6.59 | 54.3 | -9 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 15:25:24 | 20.34 | 1.254 | 18.82 | 12.174 | 6.58 | 54.7 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 15:30:24 | 20.34 | 1.254 | 18.82 | 12.171 | 6.58 | 54.6 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 15:35:24 | 20.34 | 1.254 | 18.82 | 12.174 | 6.58 | 54.6 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 15:40:24 | 20.34 | 1.254 | 18.82 | 12.171 | 6.59 | 54.2 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 15:45:24 | 20.34 | 1.254 | 18.82 | 12.168 | 6.58 | 54.4 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 15:50:24 | 20.34 | 1.254 | 18.82 | 12.169 | 6.59 | 54.1 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 15:55:24 | 20.34 | 1.254 | 18.82 | 12.168 | 6.58 | 54.5 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 16:00:24 | 20.34 | 1.254 | 18.82 | 12.164 | 6.58 | 54.7 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 16:05:24 | 20.34 | 1.254 | 18.82 | 12.163 | 6.58 | 54.8 | -7 | 2.4 | 0.22 |
| 4/16/2012 | 16:10:24 | 20.34 | 1.254 | 18.82 | 12.162 | 6.58 | 54.6 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 16:15:24 | 20.34 | 1.254 | 18.82 | 12.163 | 6.59 | 54 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 16:20:24 | 20.34 | 1.254 | 18.82 | 12.161 | 6.57 | 55.1 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 16:25:24 | 20.34 | 1.254 | 18.82 | 12.16 | 6.56 | 55.5 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 16:30:24 | 20.34 | 1.254 | 18.82 | 12.159 | 6.56 | 55.6 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 16:35:24 | 20.34 | 1.254 | 18.82 | 12.159 | 6.55 | 56.5 | -7 | 2.4 | 0.22 |
| 4/16/2012 | 16:40:24 | 20.34 | 1.254 | 18.82 | 12.162 | 6.56 | 55.5 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 16:45:24 | 20.34 | 1.254 | 18.82 | 12.162 | 6.56 | 55.5 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 16:50:24 | 20.34 | 1.254 | 18.82 | 12.159 | 6.56 | 55.5 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 16:55:24 | 20.34 | 1.254 | 18.82 | 12.158 | 6.56 | 55.8 | -7 | 2.4 | 0.22 |
| 4/16/2012 | 17:00:24 | 20.34 | 1.254 | 18.82 | 12.165 | 6.57 | 55 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 17:05:24 | 20.34 | 1.254 | 18.82 | 12.165 | 6.56 | 55.5 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 17:10:24 | 20.34 | 1.254 | 18.82 | 12.17 | 6.57 | 55.1 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 17:15:24 | 20.34 | 1.254 | 18.82 | 12.166 | 6.58 | 54.6 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 17:20:24 | 20.34 | 1.254 | 18.82 | 12.166 | 6.57 | 54.9 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 17:25:24 | 20.34 | 1.254 | 18.82 | 12.166 | 6.56 | 55.5 | -6 | 2.4 | 0.22 |
| 4/16/2012 | 17:30:24 | 20.34 | 1.254 | 18.82 | 12.165 | 6.57 | 55.2 | -7 | 2.4 | 0.22 |
| 4/16/2012 | 17:35:24 | 20.34 | 1.254 | 18.82 | 12.167 | 6.55 | 56.5 | -7 | 2.4 | 0.22 |
| 4/16/2012 | 17:40:24 | 20.34 | 1.254 | 18.82 | 12.168 | 6.58 | 54.6 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 17:45:24 | 20.34 | 1.254 | 18.82 | 12.17 | 6.57 | 54.9 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 17:50:24 | 20.34 | 1.254 | 18.82 | 12.172 | 6.58 | 54.4 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 17:55:24 | 20.34 | 1.254 | 18.82 | 12.169 | 6.58 | 54.6 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 18:00:24 | 20.34 | 1.254 | 18.82 | 12.172 | 6.58 | 54.4 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 18:05:24 | 20.34 | 1.254 | 18.82 | 12.173 | 6.58 | 54.4 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 18:10:24 | 20.34 | 1.254 | 18.82 | 12.173 | 6.58 | 54.7 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 18:15:24 | 20.34 | 1.254 | 18.82 | 12.173 | 6.58 | 54.7 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 18:20:24 | 20.34 | 1.254 | 18.82 | 12.175 | 6.58 | 54.5 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 18:25:24 | 20.34 | 1.254 | 18.82 | 12.175 | 6.57 | 55.4 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 18:30:24 | 20.34 | 1.254 | 18.82 | 12.178 | 6.58 | 54.4 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 18:35:24 | 20.34 | 1.254 | 18.82 | 12.178 | 6.59 | 54.1 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 18:40:24 | 20.34 | 1.254 | 18.82 | 12.179 | 6.58 | 54.4 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 18:45:24 | 20.34 | 1.254 | 18.83 | 12.18 | 6.59 | 54.1 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 18:50:24 | 20.34 | 1.254 | 18.83 | 12.181 | 6.58 | 54.3 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 18:55:24 | 20.34 | 1.254 | 18.83 | 12.185 | 6.59 | 53.8 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 19:00:24 | 20.34 | 1.254 | 18.83 | 12.184 | 6.59 | 53.8 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 19:05:24 | 20.34 | 1.254 | 18.83 | 12.186 | 6.58 | 54.4 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 19:10:24 | 20.34 | 1.254 | 18.83 | 12.19 | 6.59 | 53.7 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 19:15:24 | 20.34 | 1.254 | 18.83 | 12.191 | 6.6 | 53.6 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 19:20:24 | 20.34 | 1.254 | 18.83 | 12.193 | 6.58 | 54.7 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 19:25:24 | 20.34 | 1.254 | 18.83 | 12.198 | 6.59 | 54.1 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 19:30:24 | 20.34 | 1.255 | 18.84 | 12.205 | 6.57 | 54.9 | -8 | 2.4 | 0.22 |
| 4/16/2012 | 19:35:24 | 20.34 | 1.254 | 18.84 | 12.206 | 6.57 | 54.9 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 19:40:24 | 20.34 | 1.254 | 18.83 | 12.201 | 6.58 | 54.8 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 19:45:24 | 20.34 | 1.254 | 18.84 | 12.204 | 6.59 | 53.8 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 19:50:24 | 20.34 | 1.254 | 18.84 | 12.205 | 6.59 | 54 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 19:55:24 | 20.34 | 1.254 | 18.84 | 12.206 | 6.58 | 54.4 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 20:00:24 | 20.34 | 1.254 | 18.84 | 12.209 | 6.59 | 54.2 | -9 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 20:05:24 | 20.34 | 1.254 | 18.84 | 12.213 | 6.58 | 54.3 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 20:10:24 | 20.34 | 1.254 | 18.84 | 12.214 | 6.58 | 54.3 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 20:15:24 | 20.34 | 1.254 | 18.84 | 12.217 | 6.59 | 53.8 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 20:20:24 | 20.34 | 1.254 | 18.84 | 12.221 | 6.58 | 54.3 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 20:25:24 | 20.34 | 1.254 | 18.84 | 12.224 | 6.59 | 54.1 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 20:30:24 | 20.34 | 1.254 | 18.84 | 12.225 | 6.59 | 53.8 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 20:35:24 | 20.34 | 1.254 | 18.85 | 12.231 | 6.58 | 54.7 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 20:40:24 | 20.34 | 1.254 | 18.85 | 12.229 | 6.59 | 54.1 | -9 | 2.4 | 0.22 |
| 4/16/2012 | 20:45:24 | 20.34 | 1.254 | 18.85 | 12.231 | 6.59 | 54.1 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 20:50:24 | 20.34 | 1.254 | 18.85 | 12.236 | 6.6 | 53.5 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 20:55:24 | 20.34 | 1.254 | 18.85 | 12.237 | 6.59 | 53.8 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 21:00:24 | 20.34 | 1.254 | 18.85 | 12.237 | 6.59 | 53.8 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 21:05:24 | 20.34 | 1.254 | 18.85 | 12.24 | 6.6 | 53.6 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 21:10:24 | 20.34 | 1.254 | 18.85 | 12.241 | 6.59 | 53.7 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 21:15:24 | 20.34 | 1.254 | 18.85 | 12.243 | 6.6 | 53.6 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 21:20:24 | 20.34 | 1.254 | 18.85 | 12.243 | 6.6 | 53.6 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 21:25:24 | 20.34 | 1.254 | 18.85 | 12.245 | 6.6 | 53.6 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 21:30:24 | 20.34 | 1.254 | 18.85 | 12.243 | 6.59 | 54.3 | -11 | 2.4 | 0.22 |
| 4/16/2012 | 21:35:24 | 20.34 | 1.254 | 18.85 | 12.244 | 6.59 | 54 | -11 | 2.4 | 0.22 |
| 4/16/2012 | 21:40:24 | 20.34 | 1.254 | 18.85 | 12.244 | 6.59 | 53.9 | -11 | 2.4 | 0.22 |
| 4/16/2012 | 21:45:24 | 20.34 | 1.254 | 18.85 | 12.247 | 6.59 | 53.7 | -10 | 2.4 | 0.22 |
| 4/16/2012 | 21:50:24 | 20.34 | 1.254 | 18.85 | 12.244 | 6.6 | 53.4 | -11 | 2.4 | 0.22 |
| 4/16/2012 | 21:55:24 | 20.34 | 1.254 | 18.85 | 12.243 | 6.6 | 53.3 | -11 | 2.4 | 0.22 |
| 4/16/2012 | 22:00:24 | 20.34 | 1.254 | 18.85 | 12.242 | 6.6 | 53.6 | -11 | 2.4 | 0.22 |
| 4/16/2012 | 22:05:24 | 20.34 | 1.254 | 18.85 | 12.239 | 6.6 | 53.3 | -11 | 2.4 | 0.22 |
| 4/16/2012 | 22:10:24 | 20.34 | 1.254 | 18.85 | 12.237 | 6.6 | 53.6 | -12 | 2.4 | 0.22 |
| 4/16/2012 | 22:15:24 | 20.34 | 1.255 | 18.85 | 12.236 | 6.6 | 53.4 | -12 | 2.4 | 0.22 |
| 4/16/2012 | 22:20:24 | 20.34 | 1.254 | 18.85 | 12.232 | 6.6 | 53.4 | -12 | 2.4 | 0.22 |
| 4/16/2012 | 22:25:24 | 20.34 | 1.254 | 18.85 | 12.231 | 6.59 | 53.8 | -13 | 2.4 | 0.22 |
| 4/16/2012 | 22:30:24 | 20.34 | 1.254 | 18.85 | 12.228 | 6.6 | 53.3 | -13 | 2.4 | 0.22 |
| 4/16/2012 | 22:35:24 | 20.34 | 1.254 | 18.85 | 12.226 | 6.6 | 53.3 | -13 | 2.4 | 0.22 |
| 4/16/2012 | 22:40:24 | 20.34 | 1.254 | 18.84 | 12.223 | 6.59 | 53.8 | -14 | 2.4 | 0.22 |
| 4/16/2012 | 22:45:24 | 20.34 | 1.254 | 18.84 | 12.219 | 6.59 | 53.8 | -13 | 2.4 | 0.22 |
| 4/16/2012 | 22:50:24 | 20.34 | 1.254 | 18.84 | 12.216 | 6.6 | 53.6 | -13 | 2.4 | 0.22 |
| 4/16/2012 | 22:55:24 | 20.34 | 1.254 | 18.84 | 12.215 | 6.6 | 53.3 | -13 | 2.4 | 0.22 |
| 4/16/2012 | 23:00:24 | 20.34 | 1.254 | 18.84 | 12.212 | 6.6 | 53.3 | -13 | 2.4 | 0.22 |
| 4/16/2012 | 23:05:24 | 20.34 | 1.254 | 18.84 | 12.209 | 6.6 | 53.3 | -14 | 2.4 | 0.22 |
| 4/16/2012 | 23:10:24 | 20.34 | 1.254 | 18.84 | 12.208 | 6.6 | 53.5 | -14 | 2.4 | 0.22 |
| 4/16/2012 | 23:15:24 | 20.34 | 1.254 | 18.83 | 12.203 | 6.59 | 53.7 | -14 | 2.4 | 0.22 |
| 4/16/2012 | 23:20:24 | 20.34 | 1.254 | 18.83 | 12.201 | 6.6 | 53.6 | -14 | 2.4 | 0.22 |
| 4/16/2012 | 23:25:24 | 20.34 | 1.254 | 18.83 | 12.199 | 6.59 | 53.7 | -14 | 2.4 | 0.22 |
| 4/16/2012 | 23:30:24 | 20.34 | 1.254 | 18.83 | 12.195 | 6.6 | 53.6 | -15 | 2.4 | 0.22 |
| 4/16/2012 | 23:35:24 | 20.34 | 1.254 | 18.83 | 12.193 | 6.59 | 54 | -15 | 2.4 | 0.22 |
| 4/16/2012 | 23:40:24 | 20.34 | 1.254 | 18.83 | 12.19 | 6.61 | 53.1 | -15 | 2.4 | 0.22 |
| 4/16/2012 | 23:45:24 | 20.34 | 1.254 | 18.83 | 12.189 | 6.61 | 53 | -15 | 2.4 | 0.22 |
| 4/16/2012 | 23:50:24 | 20.34 | 1.254 | 18.83 | 12.186 | 6.6 | 53.6 | -15 | 2.4 | 0.22 |
| 4/16/2012 | 23:55:24 | 20.34 | 1.254 | 18.83 | 12.184 | 6.6 | 53.5 | -15 | 2.4 | 0.22 |
| 4/17/2012 | 0:00:24 | 20.34 | 1.254 | 18.83 | 12.18 | 6.61 | 53 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 0:05:24 | 20.34 | 1.254 | 18.82 | 12.178 | 6.6 | 53.2 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 0:10:24 | 20.34 | 1.254 | 18.82 | 12.177 | 6.6 | 53.3 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 0:15:24 | 20.34 | 1.254 | 18.82 | 12.175 | 6.61 | 52.9 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 0:20:24 | 20.34 | 1.254 | 18.82 | 12.174 | 6.6 | 53.5 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 0:25:24 | 20.34 | 1.254 | 18.82 | 12.172 | 6.61 | 53 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 0:30:24 | 20.34 | 1.254 | 18.82 | 12.17 | 6.6 | 53.4 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 0:35:24 | 20.34 | 1.254 | 18.82 | 12.168 | 6.6 | 53.3 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 0:40:24 | 20.34 | 1.254 | 18.82 | 12.165 | 6.6 | 53.2 | -16 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 0:45:24 | 20.34 | 1.254 | 18.82 | 12.163 | 6.61 | 53 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 0:50:24 | 20.34 | 1.254 | 18.82 | 12.163 | 6.6 | 53.3 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 0:55:24 | 20.34 | 1.254 | 18.82 | 12.16 | 6.61 | 53 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 1:00:24 | 20.34 | 1.254 | 18.82 | 12.159 | 6.6 | 53.6 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 1:05:24 | 20.34 | 1.254 | 18.82 | 12.157 | 6.61 | 52.9 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 1:10:24 | 20.34 | 1.254 | 18.82 | 12.157 | 6.6 | 53.6 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 1:15:24 | 20.34 | 1.254 | 18.81 | 12.154 | 6.6 | 53.6 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 1:20:24 | 20.34 | 1.254 | 18.81 | 12.155 | 6.6 | 53.5 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 1:25:24 | 20.34 | 1.254 | 18.81 | 12.153 | 6.61 | 53 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 1:30:24 | 20.34 | 1.254 | 18.81 | 12.151 | 6.61 | 53 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 1:35:24 | 20.34 | 1.254 | 18.81 | 12.151 | 6.6 | 53.5 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 1:40:24 | 20.34 | 1.254 | 18.81 | 12.147 | 6.61 | 53 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 1:45:24 | 20.34 | 1.254 | 18.81 | 12.148 | 6.59 | 53.9 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 1:50:24 | 20.34 | 1.254 | 18.81 | 12.146 | 6.61 | 53 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 1:55:24 | 20.34 | 1.254 | 18.81 | 12.147 | 6.59 | 53.7 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 2:00:24 | 20.34 | 1.254 | 18.81 | 12.145 | 6.61 | 53 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 2:05:24 | 20.34 | 1.254 | 18.81 | 12.145 | 6.61 | 53 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 2:10:24 | 20.34 | 1.254 | 18.81 | 12.143 | 6.61 | 53 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 2:15:24 | 20.34 | 1.254 | 18.81 | 12.142 | 6.6 | 53.5 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 2:20:24 | 20.34 | 1.254 | 18.81 | 12.144 | 6.61 | 53 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 2:25:24 | 20.34 | 1.254 | 18.81 | 12.14 | 6.6 | 53.5 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 2:30:24 | 20.34 | 1.254 | 18.81 | 12.14 | 6.6 | 53.6 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 2:35:24 | 20.34 | 1.254 | 18.81 | 12.14 | 6.61 | 53.1 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 2:40:24 | 20.34 | 1.254 | 18.81 | 12.139 | 6.59 | 53.8 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 2:45:24 | 20.34 | 1.254 | 18.81 | 12.139 | 6.61 | 53.1 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 2:50:24 | 20.34 | 1.254 | 18.81 | 12.136 | 6.6 | 53.6 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 2:55:24 | 20.34 | 1.254 | 18.81 | 12.138 | 6.59 | 54.1 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 3:00:24 | 20.34 | 1.254 | 18.81 | 12.137 | 6.59 | 53.7 | -16 | 2.4 | 0.22 |
| 4/17/2012 | 3:05:24 | 20.34 | 1.254 | 18.81 | 12.138 | 6.59 | 53.7 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 3:10:24 | 20.34 | 1.254 | 18.81 | 12.136 | 6.6 | 53.3 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 3:15:24 | 20.34 | 1.254 | 18.81 | 12.137 | 6.59 | 53.8 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 3:20:24 | 20.34 | 1.254 | 18.81 | 12.134 | 6.6 | 53.2 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 3:25:24 | 20.34 | 1.254 | 18.81 | 12.135 | 6.6 | 53.2 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 3:30:24 | 20.34 | 1.254 | 18.8 | 12.132 | 6.6 | 53.3 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 3:35:24 | 20.34 | 1.254 | 18.81 | 12.134 | 6.6 | 53.3 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 3:40:24 | 20.34 | 1.254 | 18.81 | 12.134 | 6.6 | 53.2 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 3:45:24 | 20.34 | 1.254 | 18.8 | 12.133 | 6.6 | 53.2 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 3:50:24 | 20.34 | 1.254 | 18.8 | 12.132 | 6.6 | 53.6 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 3:55:24 | 20.34 | 1.254 | 18.81 | 12.135 | 6.6 | 53.2 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 4:00:24 | 20.34 | 1.254 | 18.8 | 12.131 | 6.6 | 53.4 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 4:05:24 | 20.34 | 1.254 | 18.8 | 12.13 | 6.6 | 53.5 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 4:10:24 | 20.34 | 1.254 | 18.8 | 12.129 | 6.61 | 53.1 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 4:15:24 | 20.34 | 1.254 | 18.8 | 12.129 | 6.6 | 53.4 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 4:20:24 | 20.34 | 1.254 | 18.8 | 12.131 | 6.6 | 53.6 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 4:25:24 | 20.34 | 1.254 | 18.8 | 12.132 | 6.59 | 53.9 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 4:30:24 | 20.34 | 1.254 | 18.8 | 12.131 | 6.6 | 53.6 | -17 | 2.4 | 0.22 |
| 4/17/2012 | 4:35:24 | 20.34 | 1.255 | 18.8 | 12.131 | 6.6 | 53.5 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 4:40:24 | 20.34 | 1.254 | 18.8 | 12.131 | 6.59 | 53.8 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 4:45:24 | 20.34 | 1.254 | 18.8 | 12.131 | 6.6 | 53.6 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 4:50:24 | 20.34 | 1.254 | 18.8 | 12.129 | 6.61 | 53.1 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 4:55:24 | 20.34 | 1.254 | 18.8 | 12.131 | 6.6 | 53.5 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 5:00:24 | 20.34 | 1.254 | 18.8 | 12.132 | 6.6 | 53.4 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 5:05:24 | 20.34 | 1.254 | 18.81 | 12.134 | 6.61 | 52.9 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 5:10:24 | 20.34 | 1.254 | 18.8 | 12.132 | 6.61 | 52.9 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 5:15:24 | 20.34 | 1.254 | 18.81 | 12.133 | 6.6 | 53.3 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 5:20:24 | 20.34 | 1.255 | 18.81 | 12.135 | 6.6 | 53.5 | -18 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 5:25:24 | 20.34 | 1.254 | 18.81 | 12.136 | 6.6 | 53.1 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 5:30:24 | 20.34 | 1.254 | 18.81 | 12.136 | 6.6 | 53.2 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 5:35:24 | 20.34 | 1.254 | 18.81 | 12.137 | 6.6 | 53.2 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 5:40:24 | 20.34 | 1.255 | 18.81 | 12.138 | 6.61 | 52.8 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 5:45:24 | 20.34 | 1.254 | 18.81 | 12.139 | 6.61 | 53 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 5:50:24 | 20.34 | 1.255 | 18.81 | 12.14 | 6.61 | 52.9 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 5:55:24 | 20.34 | 1.255 | 18.81 | 12.141 | 6.62 | 52.4 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 6:00:24 | 20.34 | 1.254 | 18.81 | 12.143 | 6.62 | 52.4 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 6:05:24 | 20.34 | 1.254 | 18.81 | 12.146 | 6.6 | 53.2 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 6:10:24 | 20.34 | 1.255 | 18.81 | 12.148 | 6.61 | 52.7 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 6:15:24 | 20.34 | 1.255 | 18.81 | 12.147 | 6.61 | 53 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 6:20:24 | 20.34 | 1.254 | 18.81 | 12.149 | 6.59 | 54 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 6:25:24 | 20.34 | 1.255 | 18.81 | 12.152 | 6.59 | 53.7 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 6:30:24 | 20.34 | 1.254 | 18.81 | 12.153 | 6.57 | 55.3 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 6:35:24 | 20.34 | 1.254 | 18.81 | 12.156 | 6.6 | 53.6 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 6:40:24 | 20.34 | 1.254 | 18.82 | 12.16 | 6.61 | 52.9 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 6:45:24 | 20.34 | 1.255 | 18.82 | 12.163 | 6.61 | 52.9 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 6:50:24 | 20.34 | 1.255 | 18.82 | 12.166 | 6.61 | 53 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 6:55:24 | 20.34 | 1.254 | 18.82 | 12.168 | 6.62 | 52.4 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 7:00:24 | 20.34 | 1.255 | 18.82 | 12.169 | 6.61 | 52.9 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 7:05:24 | 20.34 | 1.255 | 18.82 | 12.173 | 6.62 | 52.5 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 7:10:24 | 20.34 | 1.255 | 18.82 | 12.176 | 6.61 | 52.6 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 7:15:24 | 20.34 | 1.254 | 18.82 | 12.178 | 6.61 | 52.7 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 7:20:24 | 20.34 | 1.254 | 18.83 | 12.182 | 6.62 | 52 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 7:25:24 | 20.34 | 1.254 | 18.83 | 12.183 | 6.62 | 52.1 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 7:30:24 | 20.34 | 1.255 | 18.83 | 12.185 | 6.62 | 52.4 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 7:35:24 | 20.34 | 1.254 | 18.83 | 12.186 | 6.63 | 51.8 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 7:40:24 | 20.34 | 1.254 | 18.83 | 12.188 | 6.62 | 52.4 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 7:45:24 | 20.34 | 1.254 | 18.83 | 12.19 | 6.63 | 51.8 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 7:50:24 | 20.34 | 1.254 | 18.83 | 12.193 | 6.63 | 51.7 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 7:55:24 | 20.34 | 1.255 | 18.83 | 12.197 | 6.61 | 53 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 8:00:24 | 20.34 | 1.254 | 18.83 | 12.2 | 6.63 | 51.8 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 8:05:24 | 20.34 | 1.255 | 18.84 | 12.203 | 6.61 | 52.6 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 8:10:24 | 20.34 | 1.254 | 18.84 | 12.207 | 6.62 | 52.2 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 8:15:24 | 20.34 | 1.254 | 18.84 | 12.21 | 6.63 | 51.6 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 8:20:24 | 20.34 | 1.255 | 18.84 | 12.214 | 6.63 | 51.5 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 8:25:24 | 20.34 | 1.254 | 18.84 | 12.215 | 6.63 | 51.4 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 8:30:24 | 20.34 | 1.255 | 18.84 | 12.218 | 6.63 | 51.4 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 8:35:24 | 20.34 | 1.255 | 18.84 | 12.221 | 6.63 | 51.4 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 8:40:24 | 20.34 | 1.255 | 18.85 | 12.226 | 6.64 | 51.1 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 8:45:24 | 20.34 | 1.255 | 18.85 | 12.229 | 6.63 | 51.6 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 8:50:24 | 20.34 | 1.254 | 18.85 | 12.231 | 6.63 | 51.5 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 8:55:24 | 20.34 | 1.255 | 18.85 | 12.233 | 6.64 | 51.3 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 9:00:24 | 20.34 | 1.255 | 18.85 | 12.235 | 6.64 | 51.3 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 9:05:24 | 20.34 | 1.255 | 18.85 | 12.239 | 6.63 | 51.6 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 9:10:24 | 20.34 | 1.255 | 18.85 | 12.241 | 6.64 | 51.3 | -18 | 2.4 | 0.22 |
| 4/17/2012 | 9:15:24 | 20.34 | 1.255 | 18.85 | 12.242 | 6.63 | 51.8 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 9:20:24 | 20.34 | 1.255 | 18.85 | 12.245 | 6.63 | 51.5 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 9:25:24 | 20.34 | 1.255 | 18.85 | 12.246 | 6.64 | 51.3 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 9:30:24 | 20.34 | 1.255 | 18.85 | 12.247 | 6.63 | 51.5 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 9:35:24 | 20.34 | 1.255 | 18.85 | 12.248 | 6.63 | 51.7 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 9:40:24 | 20.34 | 1.255 | 18.85 | 12.248 | 6.62 | 52.2 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 9:45:24 | 20.34 | 1.255 | 18.85 | 12.246 | 6.63 | 51.8 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 9:50:24 | 20.34 | 1.255 | 18.85 | 12.246 | 6.63 | 51.9 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 9:55:24 | 20.34 | 1.255 | 18.86 | 12.252 | 6.64 | 51.2 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 10:00:24 | 20.34 | 1.255 | 18.86 | 12.258 | 6.64 | 51.1 | -19 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 10:05:24 | 20.34 | 1.255 | 18.85 | 12.242 | 6.63 | 51.8 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 10:10:24 | 20.34 | 1.255 | 18.85 | 12.241 | 6.63 | 51.9 | -19 | 2.4 | 0.22 |
| 4/17/2012 | 10:15:24 | 20.34 | 1.255 | 18.85 | 12.237 | 6.63 | 51.5 | -20 | 2.4 | 0.22 |
| 4/17/2012 | 10:20:24 | 20.34 | 1.255 | 18.85 | 12.236 | 6.63 | 51.8 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 10:25:24 | 20.34 | 1.255 | 18.85 | 12.234 | 6.64 | 50.9 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 10:30:24 | 20.34 | 1.255 | 18.85 | 12.231 | 6.64 | 50.9 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 10:35:24 | 20.34 | 1.255 | 18.85 | 12.23 | 6.64 | 51.1 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 10:40:24 | 20.34 | 1.255 | 18.85 | 12.228 | 6.65 | 50.8 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 10:45:24 | 20.34 | 1.255 | 18.84 | 12.225 | 6.64 | 51.1 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 10:50:24 | 20.34 | 1.254 | 18.84 | 12.224 | 6.64 | 50.8 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 10:55:24 | 20.34 | 1.254 | 18.84 | 12.219 | 6.64 | 51.1 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 11:00:24 | 20.34 | 1.255 | 18.84 | 12.217 | 6.64 | 51.1 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 11:05:24 | 20.34 | 1.255 | 18.84 | 12.214 | 6.64 | 51 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 11:10:24 | 20.34 | 1.255 | 18.84 | 12.212 | 6.64 | 50.9 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 11:15:24 | 20.34 | 1.255 | 18.84 | 12.21 | 6.65 | 50.6 | -21 | 2.4 | 0.22 |
| 4/17/2012 | 11:20:24 | 20.34 | 1.255 | 18.84 | 12.207 | 6.64 | 51 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 11:25:24 | 20.34 | 1.255 | 18.84 | 12.204 | 6.65 | 50.6 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 11:30:24 | 20.34 | 1.254 | 18.83 | 12.198 | 6.65 | 50.5 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 11:35:24 | 20.34 | 1.254 | 18.83 | 12.196 | 6.65 | 50.3 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 11:40:24 | 20.34 | 1.254 | 18.83 | 12.194 | 6.64 | 51.1 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 11:45:24 | 20.34 | 1.254 | 18.83 | 12.192 | 6.65 | 50.2 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 11:50:24 | 20.34 | 1.254 | 18.83 | 12.188 | 6.65 | 50.2 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 11:55:24 | 20.34 | 1.255 | 18.83 | 12.188 | 6.66 | 50.2 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 12:00:24 | 20.34 | 1.254 | 18.83 | 12.184 | 6.65 | 50.4 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 12:05:24 | 20.34 | 1.254 | 18.83 | 12.181 | 6.66 | 50 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 12:10:24 | 20.34 | 1.254 | 18.82 | 12.177 | 6.65 | 50.5 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 12:15:24 | 20.34 | 1.254 | 18.82 | 12.175 | 6.66 | 50.1 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 12:20:24 | 20.34 | 1.254 | 18.82 | 12.175 | 6.66 | 49.9 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 12:25:24 | 20.34 | 1.254 | 18.82 | 12.172 | 6.65 | 50.2 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 12:30:24 | 20.34 | 1.254 | 18.82 | 12.169 | 6.66 | 49.9 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 12:35:24 | 20.34 | 1.254 | 18.82 | 12.167 | 6.66 | 49.9 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 12:40:24 | 20.34 | 1.255 | 18.82 | 12.166 | 6.66 | 50 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 12:45:24 | 20.34 | 1.254 | 18.82 | 12.163 | 6.67 | 49.6 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 12:50:24 | 20.34 | 1.254 | 18.82 | 12.16 | 6.67 | 49.6 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 12:55:24 | 20.34 | 1.254 | 18.82 | 12.158 | 6.66 | 49.6 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 13:00:24 | 20.34 | 1.254 | 18.81 | 12.156 | 6.64 | 50.8 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 13:05:24 | 20.34 | 1.254 | 18.81 | 12.153 | 6.65 | 50.8 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 13:10:24 | 20.34 | 1.254 | 18.81 | 12.152 | 6.65 | 50.5 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 13:15:24 | 20.34 | 1.254 | 18.81 | 12.152 | 6.67 | 49.4 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 13:20:24 | 20.34 | 1.254 | 18.81 | 12.149 | 6.67 | 49.4 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 13:25:24 | 20.34 | 1.254 | 18.81 | 12.15 | 6.66 | 49.7 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 13:30:24 | 20.34 | 1.254 | 18.81 | 12.15 | 6.67 | 49.4 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 13:35:24 | 20.34 | 1.254 | 18.81 | 12.146 | 6.67 | 49.3 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 13:40:24 | 20.34 | 1.254 | 18.81 | 12.145 | 6.67 | 49.2 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 13:45:24 | 20.34 | 1.254 | 18.81 | 12.142 | 6.65 | 50.2 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 13:50:24 | 20.34 | 1.254 | 18.81 | 12.144 | 6.66 | 49.6 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 13:55:24 | 20.34 | 1.254 | 18.81 | 12.141 | 6.67 | 49.2 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 14:00:24 | 20.34 | 1.254 | 18.81 | 12.14 | 6.67 | 49.2 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 14:05:24 | 20.34 | 1.254 | 18.81 | 12.141 | 6.66 | 50.1 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 14:10:24 | 20.34 | 1.254 | 18.81 | 12.141 | 6.67 | 49.3 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 14:15:24 | 20.34 | 1.254 | 18.81 | 12.139 | 6.67 | 49.3 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 14:20:24 | 20.34 | 1.254 | 18.81 | 12.134 | 6.67 | 49.4 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 14:25:24 | 20.34 | 1.254 | 18.81 | 12.135 | 6.67 | 49.4 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 14:30:24 | 20.34 | 1.254 | 18.81 | 12.135 | 6.68 | 48.8 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 14:35:24 | 20.34 | 1.254 | 18.8 | 12.131 | 6.68 | 48.6 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 14:40:24 | 20.34 | 1.254 | 18.8 | 12.13 | 6.68 | 48.5 | -24 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 14:45:24 | 20.34 | 1.254 | 18.8 | 12.127 | 6.68 | 48.8 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 14:50:24 | 20.34 | 1.254 | 18.8 | 12.127 | 6.68 | 48.5 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 14:55:24 | 20.34 | 1.254 | 18.8 | 12.123 | 6.68 | 48.8 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 15:00:24 | 20.34 | 1.254 | 18.8 | 12.123 | 6.67 | 49.1 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 15:05:24 | 20.34 | 1.254 | 18.8 | 12.119 | 6.68 | 48.5 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 15:10:24 | 20.34 | 1.254 | 18.8 | 12.12 | 6.67 | 49.3 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 15:15:24 | 20.34 | 1.254 | 18.8 | 12.118 | 6.68 | 48.5 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 15:20:24 | 20.34 | 1.254 | 18.8 | 12.113 | 6.68 | 48.8 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 15:25:24 | 20.34 | 1.253 | 18.8 | 12.119 | 6.68 | 48.5 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 15:30:24 | 20.34 | 1.253 | 18.8 | 12.119 | 6.68 | 48.6 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 15:35:24 | 20.34 | 1.254 | 18.8 | 12.119 | 6.69 | 48.2 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 15:40:24 | 20.34 | 1.254 | 18.8 | 12.118 | 6.69 | 48.1 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 15:45:24 | 20.34 | 1.254 | 18.8 | 12.113 | 6.69 | 48.3 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 15:50:24 | 20.34 | 1.253 | 18.8 | 12.112 | 6.69 | 48 | -26 | 2.4 | 0.22 |
| 4/17/2012 | 15:55:24 | 20.34 | 1.254 | 18.8 | 12.111 | 6.7 | 47.9 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 16:00:24 | 20.34 | 1.254 | 18.8 | 12.112 | 6.69 | 48.4 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 16:05:24 | 20.34 | 1.253 | 18.79 | 12.109 | 6.7 | 47.9 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 16:10:24 | 20.34 | 1.254 | 18.79 | 12.108 | 6.7 | 47.4 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 16:15:24 | 20.34 | 1.254 | 18.79 | 12.108 | 6.69 | 48.2 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 16:20:24 | 20.34 | 1.253 | 18.79 | 12.106 | 6.7 | 47.9 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 16:25:24 | 20.34 | 1.253 | 18.79 | 12.105 | 6.7 | 47.7 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 16:30:24 | 20.34 | 1.253 | 18.79 | 12.104 | 6.7 | 47.6 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 16:35:24 | 20.34 | 1.253 | 18.79 | 12.102 | 6.7 | 47.5 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 16:40:24 | 20.34 | 1.253 | 18.79 | 12.097 | 6.71 | 47.1 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 16:45:24 | 20.34 | 1.253 | 18.79 | 12.099 | 6.7 | 47.3 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 16:50:24 | 20.34 | 1.254 | 18.79 | 12.098 | 6.71 | 47.2 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 16:55:24 | 20.34 | 1.253 | 18.79 | 12.098 | 6.71 | 47.2 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 17:00:24 | 20.34 | 1.254 | 18.79 | 12.1 | 6.71 | 46.8 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 17:05:24 | 20.34 | 1.253 | 18.79 | 12.099 | 6.72 | 46.7 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 17:10:24 | 20.34 | 1.254 | 18.79 | 12.095 | 6.71 | 47.1 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 17:15:24 | 20.34 | 1.254 | 18.79 | 12.094 | 6.72 | 46.5 | -26 | 2.4 | 0.22 |
| 4/17/2012 | 17:20:24 | 20.34 | 1.254 | 18.79 | 12.098 | 6.72 | 46.7 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 17:25:24 | 20.34 | 1.253 | 18.79 | 12.095 | 6.72 | 46.3 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 17:30:24 | 20.34 | 1.253 | 18.79 | 12.096 | 6.72 | 46.6 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 17:35:24 | 20.34 | 1.253 | 18.79 | 12.096 | 6.71 | 46.8 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 17:40:24 | 20.34 | 1.254 | 18.79 | 12.097 | 6.72 | 46.3 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 17:45:24 | 20.34 | 1.253 | 18.79 | 12.098 | 6.72 | 46.2 | -24 | 2.4 | 0.22 |
| 4/17/2012 | 17:50:24 | 20.34 | 1.254 | 18.79 | 12.097 | 6.73 | 45.7 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 17:55:24 | 20.34 | 1.253 | 18.79 | 12.099 | 6.72 | 46.4 | -22 | 2.4 | 0.22 |
| 4/17/2012 | 18:00:24 | 20.34 | 1.253 | 18.79 | 12.098 | 6.73 | 45.7 | -23 | 2.4 | 0.22 |
| 4/17/2012 | 18:05:24 | 20.34 | 1.253 | 18.79 | 12.095 | 6.74 | 45.3 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 18:10:24 | 20.34 | 1.254 | 18.79 | 12.097 | 6.74 | 45 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 18:15:24 | 20.34 | 1.254 | 18.79 | 12.1 | 6.75 | 45 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 18:20:24 | 20.34 | 1.254 | 18.79 | 12.101 | 6.74 | 45 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 18:25:24 | 20.34 | 1.253 | 18.79 | 12.101 | 6.75 | 44.9 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 18:30:24 | 20.34 | 1.253 | 18.79 | 12.101 | 6.75 | 45 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 18:35:24 | 20.34 | 1.253 | 18.79 | 12.104 | 6.75 | 44.8 | -26 | 2.4 | 0.22 |
| 4/17/2012 | 18:40:24 | 20.34 | 1.253 | 18.79 | 12.106 | 6.75 | 44.9 | -25 | 2.4 | 0.22 |
| 4/17/2012 | 18:45:24 | 20.34 | 1.253 | 18.79 | 12.108 | 6.75 | 44.7 | -26 | 2.4 | 0.22 |
| 4/17/2012 | 18:50:24 | 20.34 | 1.254 | 18.79 | 12.107 | 6.75 | 44.9 | -26 | 2.4 | 0.22 |
| 4/17/2012 | 18:55:24 | 20.34 | 1.253 | 18.79 | 12.108 | 6.75 | 44.7 | -26 | 2.4 | 0.22 |
| 4/17/2012 | 19:00:24 | 20.34 | 1.253 | 18.79 | 12.109 | 6.75 | 44.7 | -26 | 2.4 | 0.22 |
| 4/17/2012 | 19:05:24 | 20.34 | 1.253 | 18.79 | 12.109 | 6.75 | 44.6 | -26 | 2.4 | 0.22 |
| 4/17/2012 | 19:10:24 | 20.34 | 1.253 | 18.8 | 12.111 | 6.75 | 44.5 | -26 | 2.4 | 0.22 |
| 4/17/2012 | 19:15:24 | 20.34 | 1.253 | 18.8 | 12.111 | 6.76 | 44.4 | -26 | 2.4 | 0.22 |
| 4/17/2012 | 19:20:24 | 20.34 | 1.253 | 18.8 | 12.111 | 6.76 | 44.3 | -26 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 19:25:24 | 20.34 | 1.253 | 18.8 | 12.113 | 6.76 | 44.3 | -26 | 2.4 | 0.22 |
| 4/17/2012 | 19:30:24 | 20.34 | 1.253 | 18.8 | 12.114 | 6.76 | 44.1 | -27 | 2.4 | 0.22 |
| 4/17/2012 | 19:35:24 | 20.34 | 1.254 | 18.8 | 12.115 | 6.76 | 43.9 | -27 | 2.4 | 0.22 |
| 4/17/2012 | 19:40:24 | 20.34 | 1.254 | 18.8 | 12.117 | 6.76 | 44 | -27 | 2.4 | 0.22 |
| 4/17/2012 | 19:45:24 | 20.34 | 1.254 | 18.8 | 12.119 | 6.77 | 43.8 | -27 | 2.4 | 0.22 |
| 4/17/2012 | 19:50:24 | 20.34 | 1.253 | 18.8 | 12.119 | 6.76 | 43.9 | -27 | 2.4 | 0.22 |
| 4/17/2012 | 19:55:24 | 20.34 | 1.253 | 18.8 | 12.123 | 6.76 | 43.9 | -27 | 2.4 | 0.22 |
| 4/17/2012 | 20:00:24 | 20.34 | 1.253 | 18.8 | 12.126 | 6.76 | 44.1 | -28 | 2.4 | 0.22 |
| 4/17/2012 | 20:05:24 | 20.34 | 1.253 | 18.8 | 12.129 | 6.78 | 43.2 | -28 | 2.4 | 0.22 |
| 4/17/2012 | 20:10:24 | 20.34 | 1.253 | 18.8 | 12.129 | 6.76 | 44.3 | -29 | 2.4 | 0.22 |
| 4/17/2012 | 20:15:24 | 20.34 | 1.254 | 18.8 | 12.131 | 6.76 | 44 | -30 | 2.4 | 0.22 |
| 4/17/2012 | 20:20:24 | 20.34 | 1.253 | 18.81 | 12.133 | 6.76 | 44.1 | -31 | 2.4 | 0.22 |
| 4/17/2012 | 20:25:24 | 20.34 | 1.253 | 18.81 | 12.136 | 6.74 | 45 | -30 | 2.4 | 0.22 |
| 4/17/2012 | 20:30:24 | 20.34 | 1.254 | 18.81 | 12.139 | 6.76 | 44.3 | -30 | 2.4 | 0.22 |
| 4/17/2012 | 20:35:24 | 20.34 | 1.253 | 18.81 | 12.14 | 6.77 | 43.7 | -31 | 2.4 | 0.22 |
| 4/17/2012 | 20:40:24 | 20.34 | 1.253 | 18.81 | 12.145 | 6.75 | 44.4 | -30 | 2.4 | 0.22 |
| 4/17/2012 | 20:45:24 | 20.34 | 1.253 | 18.81 | 12.147 | 6.77 | 43.8 | -31 | 2.4 | 0.22 |
| 4/17/2012 | 20:50:24 | 20.34 | 1.254 | 18.81 | 12.149 | 6.76 | 44.1 | -31 | 2.4 | 0.22 |
| 4/17/2012 | 20:55:24 | 20.34 | 1.253 | 18.81 | 12.153 | 6.77 | 43.5 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 21:00:24 | 20.34 | 1.253 | 18.81 | 12.157 | 6.8 | 42.1 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 21:05:24 | 20.34 | 1.253 | 18.82 | 12.16 | 6.8 | 41.9 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 21:10:24 | 20.34 | 1.254 | 18.82 | 12.164 | 6.79 | 42.4 | -30 | 2.4 | 0.22 |
| 4/17/2012 | 21:15:24 | 20.34 | 1.253 | 18.82 | 12.168 | 6.8 | 42 | -31 | 2.4 | 0.22 |
| 4/17/2012 | 21:20:24 | 20.34 | 1.254 | 18.82 | 12.171 | 6.8 | 41.9 | -30 | 2.4 | 0.22 |
| 4/17/2012 | 21:25:24 | 20.34 | 1.254 | 18.82 | 12.174 | 6.8 | 41.8 | -30 | 2.4 | 0.22 |
| 4/17/2012 | 21:30:24 | 20.34 | 1.254 | 18.82 | 12.175 | 6.8 | 41.9 | -29 | 2.4 | 0.22 |
| 4/17/2012 | 21:35:24 | 20.34 | 1.253 | 18.82 | 12.173 | 6.8 | 41.8 | -30 | 2.4 | 0.22 |
| 4/17/2012 | 21:40:24 | 20.34 | 1.253 | 18.82 | 12.174 | 6.81 | 41.4 | -30 | 2.4 | 0.22 |
| 4/17/2012 | 21:45:24 | 20.34 | 1.253 | 18.82 | 12.176 | 6.8 | 41.5 | -29 | 2.4 | 0.22 |
| 4/17/2012 | 21:50:24 | 20.34 | 1.253 | 18.83 | 12.181 | 6.8 | 41.5 | -29 | 2.4 | 0.22 |
| 4/17/2012 | 21:55:24 | 20.34 | 1.254 | 18.83 | 12.184 | 6.8 | 41.6 | -30 | 2.4 | 0.22 |
| 4/17/2012 | 22:00:24 | 20.34 | 1.253 | 18.83 | 12.185 | 6.81 | 41.5 | -30 | 2.4 | 0.22 |
| 4/17/2012 | 22:05:24 | 20.34 | 1.254 | 18.83 | 12.183 | 6.8 | 41.7 | -31 | 2.4 | 0.22 |
| 4/17/2012 | 22:10:24 | 20.34 | 1.253 | 18.83 | 12.184 | 6.81 | 41.3 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 22:15:24 | 20.34 | 1.253 | 18.83 | 12.181 | 6.81 | 41.1 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 22:20:24 | 20.34 | 1.254 | 18.83 | 12.183 | 6.81 | 41.2 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 22:25:24 | 20.34 | 1.254 | 18.83 | 12.183 | 6.81 | 41.1 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 22:30:24 | 20.34 | 1.254 | 18.83 | 12.184 | 6.81 | 41.3 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 22:35:24 | 20.34 | 1.253 | 18.83 | 12.184 | 6.81 | 41.3 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 22:40:24 | 20.34 | 1.253 | 18.83 | 12.182 | 6.81 | 41.1 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 22:45:24 | 20.34 | 1.254 | 18.83 | 12.18 | 6.81 | 41.1 | -33 | 2.4 | 0.22 |
| 4/17/2012 | 22:50:24 | 20.34 | 1.254 | 18.82 | 12.178 | 6.81 | 41 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 22:55:24 | 20.34 | 1.253 | 18.82 | 12.179 | 6.82 | 40.8 | -33 | 2.4 | 0.22 |
| 4/17/2012 | 23:00:24 | 20.34 | 1.254 | 18.82 | 12.174 | 6.82 | 40.9 | -32 | 2.4 | 0.22 |
| 4/17/2012 | 23:05:24 | 20.34 | 1.253 | 18.82 | 12.175 | 6.82 | 40.7 | -34 | 2.4 | 0.22 |
| 4/17/2012 | 23:10:24 | 20.34 | 1.253 | 18.82 | 12.169 | 6.82 | 40.8 | -33 | 2.4 | 0.22 |
| 4/17/2012 | 23:15:24 | 20.34 | 1.253 | 18.82 | 12.169 | 6.82 | 40.8 | -33 | 2.4 | 0.22 |
| 4/17/2012 | 23:20:24 | 20.34 | 1.253 | 18.82 | 12.165 | 6.82 | 40.8 | -34 | 2.4 | 0.22 |
| 4/17/2012 | 23:25:24 | 20.34 | 1.253 | 18.82 | 12.162 | 6.82 | 40.8 | -34 | 2.4 | 0.22 |
| 4/17/2012 | 23:30:24 | 20.34 | 1.253 | 18.82 | 12.157 | 6.82 | 40.7 | -34 | 2.4 | 0.22 |
| 4/17/2012 | 23:35:24 | 20.34 | 1.253 | 18.81 | 12.156 | 6.82 | 40.7 | -34 | 2.4 | 0.22 |
| 4/17/2012 | 23:40:24 | 20.34 | 1.253 | 18.81 | 12.155 | 6.82 | 40.7 | -35 | 2.4 | 0.22 |
| 4/17/2012 | 23:45:24 | 20.34 | 1.253 | 18.81 | 12.151 | 6.82 | 40.6 | -35 | 2.4 | 0.22 |
| 4/17/2012 | 23:50:24 | 20.34 | 1.254 | 18.81 | 12.148 | 6.82 | 40.6 | -34 | 2.4 | 0.22 |
| 4/17/2012 | 23:55:24 | 20.34 | 1.254 | 18.81 | 12.148 | 6.82 | 40.4 | -35 | 2.4 | 0.22 |
| 4/18/2012 | 0:00:24 | 20.34 | 1.253 | 18.81 | 12.142 | 6.82 | 40.5 | -35 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 0:05:24 | 20.34 | 1.253 | 18.81 | 12.139 | 6.82 | 40.6 | -35 | 2.4 | 0.22 |
| 4/18/2012 | 0:10:24 | 20.34 | 1.253 | 18.81 | 12.137 | 6.82 | 40.6 | -35 | 2.4 | 0.22 |
| 4/18/2012 | 0:15:24 | 20.34 | 1.254 | 18.81 | 12.136 | 6.82 | 40.4 | -35 | 2.4 | 0.22 |
| 4/18/2012 | 0:20:24 | 20.34 | 1.253 | 18.81 | 12.134 | 6.82 | 40.8 | -33 | 2.4 | 0.22 |
| 4/18/2012 | 0:25:24 | 20.34 | 1.253 | 18.8 | 12.133 | 6.82 | 40.6 | -34 | 2.4 | 0.22 |
| 4/18/2012 | 0:30:24 | 20.34 | 1.254 | 18.8 | 12.131 | 6.82 | 40.4 | -36 | 2.4 | 0.22 |
| 4/18/2012 | 0:35:24 | 20.34 | 1.253 | 18.8 | 12.127 | 6.82 | 40.4 | -36 | 2.4 | 0.22 |
| 4/18/2012 | 0:40:24 | 20.34 | 1.254 | 18.8 | 12.124 | 6.82 | 40.4 | -36 | 2.4 | 0.22 |
| 4/18/2012 | 0:45:24 | 20.34 | 1.253 | 18.8 | 12.121 | 6.82 | 40.4 | -36 | 2.4 | 0.22 |
| 4/18/2012 | 0:50:24 | 20.34 | 1.254 | 18.8 | 12.119 | 6.83 | 40.3 | -36 | 2.4 | 0.22 |
| 4/18/2012 | 0:55:24 | 20.34 | 1.253 | 18.8 | 12.118 | 6.83 | 40.2 | -37 | 2.4 | 0.22 |
| 4/18/2012 | 1:00:24 | 20.34 | 1.254 | 18.8 | 12.113 | 6.83 | 40.3 | -36 | 2.4 | 0.22 |
| 4/18/2012 | 1:05:24 | 20.34 | 1.254 | 18.79 | 12.109 | 6.82 | 40.6 | -36 | 2.4 | 0.22 |
| 4/18/2012 | 1:10:24 | 20.34 | 1.253 | 18.79 | 12.105 | 6.83 | 40.3 | -36 | 2.4 | 0.22 |
| 4/18/2012 | 1:15:24 | 20.34 | 1.254 | 18.79 | 12.106 | 6.83 | 40.2 | -37 | 2.4 | 0.22 |
| 4/18/2012 | 1:20:24 | 20.34 | 1.253 | 18.79 | 12.102 | 6.83 | 40.2 | -37 | 2.4 | 0.22 |
| 4/18/2012 | 1:25:24 | 20.34 | 1.254 | 18.79 | 12.099 | 6.83 | 40 | -37 | 2.4 | 0.22 |
| 4/18/2012 | 1:30:24 | 20.34 | 1.254 | 18.79 | 12.094 | 6.83 | 40.2 | -37 | 2.4 | 0.22 |
| 4/18/2012 | 1:35:24 | 20.34 | 1.254 | 18.79 | 12.094 | 6.83 | 40.2 | -37 | 2.4 | 0.22 |
| 4/18/2012 | 1:40:24 | 20.34 | 1.253 | 18.79 | 12.091 | 6.83 | 40.1 | -37 | 2.4 | 0.22 |
| 4/18/2012 | 1:45:24 | 20.34 | 1.253 | 18.79 | 12.088 | 6.83 | 40 | -37 | 2.4 | 0.22 |
| 4/18/2012 | 1:50:24 | 20.34 | 1.253 | 18.78 | 12.086 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 1:55:24 | 20.34 | 1.253 | 18.78 | 12.085 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:00:24 | 20.34 | 1.253 | 18.78 | 12.083 | 6.84 | 39.7 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:05:24 | 20.34 | 1.253 | 18.78 | 12.078 | 6.83 | 40 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:10:24 | 20.34 | 1.253 | 18.78 | 12.076 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:15:24 | 20.34 | 1.253 | 18.78 | 12.076 | 6.84 | 39.7 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:20:24 | 20.34 | 1.253 | 18.78 | 12.076 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:25:24 | 20.34 | 1.253 | 18.78 | 12.072 | 6.83 | 40 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:30:24 | 20.34 | 1.253 | 18.78 | 12.074 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:35:24 | 20.34 | 1.253 | 18.78 | 12.073 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:40:24 | 20.34 | 1.253 | 18.78 | 12.07 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:45:24 | 20.34 | 1.254 | 18.78 | 12.068 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:50:24 | 20.34 | 1.253 | 18.78 | 12.066 | 6.83 | 40 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 2:55:24 | 20.34 | 1.253 | 18.78 | 12.065 | 6.83 | 40 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:00:24 | 20.34 | 1.254 | 18.77 | 12.064 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:05:24 | 20.34 | 1.253 | 18.77 | 12.061 | 6.83 | 40 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:10:24 | 20.34 | 1.253 | 18.77 | 12.06 | 6.83 | 40.1 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:15:24 | 20.34 | 1.253 | 18.77 | 12.059 | 6.83 | 40 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:20:24 | 20.34 | 1.253 | 18.77 | 12.062 | 6.83 | 40 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:25:24 | 20.34 | 1.253 | 18.77 | 12.059 | 6.83 | 40 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:30:24 | 20.34 | 1.253 | 18.77 | 12.06 | 6.83 | 40 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:35:24 | 20.34 | 1.253 | 18.77 | 12.059 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:40:24 | 20.34 | 1.254 | 18.77 | 12.056 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:45:24 | 20.34 | 1.253 | 18.77 | 12.057 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:50:24 | 20.34 | 1.253 | 18.77 | 12.054 | 6.83 | 40 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 3:55:24 | 20.34 | 1.253 | 18.77 | 12.053 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 4:00:24 | 20.34 | 1.253 | 18.77 | 12.053 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 4:05:24 | 20.34 | 1.253 | 18.77 | 12.053 | 6.84 | 39.7 | -39 | 2.4 | 0.22 |
| 4/18/2012 | 4:10:24 | 20.34 | 1.253 | 18.77 | 12.05 | 6.83 | 39.8 | -39 | 2.4 | 0.22 |
| 4/18/2012 | 4:15:24 | 20.34 | 1.254 | 18.77 | 12.05 | 6.83 | 39.9 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 4:20:24 | 20.34 | 1.253 | 18.77 | 12.048 | 6.83 | 40.2 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 4:25:24 | 20.34 | 1.253 | 18.77 | 12.047 | 6.82 | 40.5 | -38 | 2.4 | 0.22 |
| 4/18/2012 | 4:30:24 | 20.34 | 1.253 | 18.77 | 12.046 | 6.82 | 40.4 | -39 | 2.4 | 0.22 |
| 4/18/2012 | 4:35:24 | 20.34 | 1.253 | 18.77 | 12.044 | 6.83 | 39.7 | -39 | 2.4 | 0.22 |
| 4/18/2012 | 4:40:24 | 20.34 | 1.253 | 18.77 | 12.045 | 6.84 | 39.5 | -39 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 4:45:24 | 20.34 | 1.253 | 18.77 | 12.045 | 6.84 | 39.5 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 4:50:24 | 20.34 | 1.253 | 18.77 | 12.047 | 6.84 | 39.5 | -39 | 2.4 | 0.22 |
| 4/18/2012 | 4:55:24 | 20.34 | 1.253 | 18.77 | 12.047 | 6.84 | 39.6 | -39 | 2.4 | 0.22 |
| 4/18/2012 | 5:00:24 | 20.34 | 1.253 | 18.77 | 12.047 | 6.84 | 39.5 | -39 | 2.4 | 0.22 |
| 4/18/2012 | 5:05:24 | 20.34 | 1.253 | 18.77 | 12.046 | 6.84 | 39.3 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 5:10:24 | 20.34 | 1.253 | 18.77 | 12.046 | 6.84 | 39.3 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 5:15:24 | 20.34 | 1.253 | 18.77 | 12.047 | 6.84 | 39.2 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 5:20:24 | 20.34 | 1.253 | 18.77 | 12.049 | 6.84 | 39.5 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 5:25:24 | 20.34 | 1.253 | 18.77 | 12.047 | 6.85 | 39.1 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 5:30:24 | 20.34 | 1.253 | 18.77 | 12.048 | 6.85 | 39.2 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 5:35:24 | 20.34 | 1.253 | 18.77 | 12.047 | 6.85 | 39.1 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 5:40:24 | 20.34 | 1.253 | 18.77 | 12.049 | 6.85 | 39.1 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 5:45:24 | 20.34 | 1.253 | 18.77 | 12.048 | 6.85 | 39.2 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 5:50:24 | 20.34 | 1.253 | 18.77 | 12.045 | 6.85 | 39.1 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 5:55:24 | 20.34 | 1.253 | 18.77 | 12.048 | 6.85 | 39.2 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 6:00:24 | 20.34 | 1.253 | 18.77 | 12.05 | 6.85 | 39.1 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 6:05:24 | 20.34 | 1.253 | 18.77 | 12.052 | 6.85 | 39.1 | -40 | 2.4 | 0.22 |
| 4/18/2012 | 6:10:24 | 20.34 | 1.253 | 18.77 | 12.052 | 6.85 | 38.9 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 6:15:24 | 20.34 | 1.253 | 18.77 | 12.052 | 6.85 | 38.9 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 6:20:24 | 20.34 | 1.253 | 18.77 | 12.053 | 6.85 | 38.9 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 6:25:24 | 20.34 | 1.253 | 18.77 | 12.053 | 6.85 | 38.8 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 6:30:24 | 20.34 | 1.253 | 18.77 | 12.056 | 6.85 | 38.9 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 6:35:24 | 20.34 | 1.253 | 18.77 | 12.057 | 6.85 | 38.8 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 6:40:24 | 20.34 | 1.253 | 18.77 | 12.058 | 6.85 | 38.9 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 6:45:24 | 20.34 | 1.253 | 18.77 | 12.058 | 6.85 | 38.9 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 6:50:24 | 20.34 | 1.253 | 18.77 | 12.058 | 6.85 | 38.8 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 6:55:24 | 20.34 | 1.253 | 18.77 | 12.061 | 6.85 | 39 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 7:00:24 | 20.34 | 1.253 | 18.77 | 12.062 | 6.85 | 38.8 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 7:05:24 | 20.34 | 1.253 | 18.78 | 12.065 | 6.85 | 38.9 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 7:10:24 | 20.34 | 1.253 | 18.78 | 12.064 | 6.85 | 38.8 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 7:15:24 | 20.34 | 1.253 | 18.78 | 12.068 | 6.84 | 39.6 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 7:20:24 | 20.34 | 1.253 | 18.78 | 12.069 | 6.83 | 39.8 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 7:25:24 | 20.34 | 1.253 | 18.78 | 12.071 | 6.84 | 39.6 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 7:30:24 | 20.34 | 1.253 | 18.78 | 12.071 | 6.84 | 39.6 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 7:35:24 | 20.34 | 1.253 | 18.78 | 12.073 | 6.84 | 39.4 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 7:40:24 | 20.34 | 1.253 | 18.78 | 12.074 | 6.84 | 39.3 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 7:45:24 | 20.34 | 1.253 | 18.78 | 12.075 | 6.84 | 39.3 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 7:50:24 | 20.34 | 1.253 | 18.78 | 12.076 | 6.85 | 38.9 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 7:55:24 | 20.34 | 1.253 | 18.78 | 12.079 | 6.85 | 38.9 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:00:24 | 20.34 | 1.253 | 18.78 | 12.081 | 6.85 | 38.7 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:05:24 | 20.34 | 1.253 | 18.78 | 12.083 | 6.85 | 38.7 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:10:24 | 20.34 | 1.253 | 18.78 | 12.085 | 6.85 | 38.8 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:15:24 | 20.34 | 1.253 | 18.78 | 12.085 | 6.85 | 38.9 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:20:24 | 20.34 | 1.253 | 18.79 | 12.087 | 6.85 | 38.8 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:25:24 | 20.34 | 1.253 | 18.79 | 12.091 | 6.85 | 38.9 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:30:24 | 20.34 | 1.253 | 18.79 | 12.094 | 6.85 | 38.6 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:35:24 | 20.34 | 1.253 | 18.79 | 12.097 | 6.85 | 38.9 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:40:24 | 20.34 | 1.253 | 18.79 | 12.098 | 6.85 | 38.8 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:45:24 | 20.34 | 1.253 | 18.79 | 12.099 | 6.85 | 38.8 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:50:24 | 20.34 | 1.253 | 18.79 | 12.102 | 6.85 | 38.9 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 8:55:24 | 20.34 | 1.254 | 18.79 | 12.106 | 6.85 | 38.9 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 9:00:24 | 20.34 | 1.253 | 18.79 | 12.107 | 6.85 | 38.9 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 9:05:24 | 20.34 | 1.253 | 18.79 | 12.11 | 6.85 | 38.9 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 9:10:24 | 20.34 | 1.253 | 18.8 | 12.111 | 6.85 | 38.9 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 9:15:24 | 20.34 | 1.253 | 18.8 | 12.113 | 6.85 | 39 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 9:20:24 | 20.34 | 1.253 | 18.8 | 12.118 | 6.84 | 39.4 | -42 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 9:25:24 | 20.34 | 1.253 | 18.8 | 12.121 | 6.84 | 39.2 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 9:30:24 | 20.34 | 1.253 | 18.8 | 12.122 | 6.85 | 39.2 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 9:35:24 | 20.34 | 1.253 | 18.8 | 12.125 | 6.84 | 39.4 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 9:40:24 | 20.34 | 1.253 | 18.8 | 12.131 | 6.85 | 39.1 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 9:45:24 | 20.34 | 1.253 | 18.8 | 12.132 | 6.84 | 39.3 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 9:50:24 | 20.34 | 1.254 | 18.81 | 12.136 | 6.84 | 39.4 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 9:55:24 | 20.34 | 1.253 | 18.81 | 12.138 | 6.84 | 39.2 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 10:00:24 | 20.34 | 1.253 | 18.81 | 12.139 | 6.85 | 39.1 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 10:05:24 | 20.34 | 1.253 | 18.81 | 12.141 | 6.85 | 38.9 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 10:10:24 | 20.34 | 1.253 | 18.81 | 12.142 | 6.85 | 39 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 10:15:24 | 20.34 | 1.253 | 18.81 | 12.146 | 6.85 | 39.1 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 10:20:24 | 20.34 | 1.253 | 18.81 | 12.145 | 6.85 | 39.1 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 10:25:24 | 20.34 | 1.253 | 18.81 | 12.145 | 6.84 | 39.5 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 10:30:24 | 20.34 | 1.254 | 18.81 | 12.146 | 6.85 | 39.1 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 10:35:24 | 20.34 | 1.254 | 18.81 | 12.144 | 6.84 | 39.2 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 10:40:24 | 20.34 | 1.253 | 18.81 | 12.144 | 6.84 | 39.4 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 10:45:24 | 20.34 | 1.253 | 18.81 | 12.145 | 6.84 | 39.3 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 10:50:24 | 20.34 | 1.253 | 18.81 | 12.146 | 6.84 | 39.2 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 10:55:24 | 20.34 | 1.253 | 18.81 | 12.143 | 6.84 | 39.2 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 11:00:24 | 20.34 | 1.253 | 18.81 | 12.14 | 6.84 | 39.6 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 11:05:24 | 20.34 | 1.253 | 18.81 | 12.139 | 6.84 | 39.7 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 11:10:24 | 20.34 | 1.253 | 18.81 | 12.136 | 6.83 | 40 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 11:15:24 | 20.34 | 1.253 | 18.81 | 12.134 | 6.83 | 40 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 11:20:24 | 20.34 | 1.253 | 18.8 | 12.132 | 6.83 | 39.8 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 11:25:24 | 20.34 | 1.253 | 18.8 | 12.129 | 6.83 | 40.2 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 11:30:24 | 20.34 | 1.253 | 18.8 | 12.128 | 6.83 | 39.8 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 11:35:24 | 20.34 | 1.253 | 18.8 | 12.126 | 6.82 | 40.4 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 11:40:24 | 20.34 | 1.253 | 18.8 | 12.123 | 6.83 | 40.1 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 11:45:24 | 20.34 | 1.253 | 18.8 | 12.12 | 6.82 | 40.4 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 11:50:24 | 20.34 | 1.253 | 18.8 | 12.118 | 6.83 | 40.3 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 11:55:24 | 20.34 | 1.253 | 18.8 | 12.116 | 6.82 | 40.5 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 12:00:24 | 20.34 | 1.253 | 18.8 | 12.115 | 6.82 | 40.8 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 12:05:24 | 20.34 | 1.253 | 18.8 | 12.112 | 6.82 | 40.8 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 12:10:24 | 20.34 | 1.253 | 18.79 | 12.109 | 6.82 | 40.7 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 12:15:24 | 20.34 | 1.253 | 18.79 | 12.103 | 6.81 | 41 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 12:20:24 | 20.34 | 1.253 | 18.79 | 12.101 | 6.82 | 40.8 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 12:25:24 | 20.34 | 1.253 | 18.79 | 12.096 | 6.81 | 41 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 12:30:24 | 20.34 | 1.253 | 18.79 | 12.091 | 6.81 | 41.2 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 12:35:24 | 20.34 | 1.253 | 18.79 | 12.087 | 6.81 | 41.1 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 12:40:24 | 20.34 | 1.253 | 18.78 | 12.084 | 6.81 | 41 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 12:45:24 | 20.34 | 1.253 | 18.78 | 12.082 | 6.81 | 41 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 12:50:24 | 20.34 | 1.253 | 18.78 | 12.08 | 6.81 | 41.2 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 12:55:24 | 20.34 | 1.253 | 18.78 | 12.075 | 6.81 | 41.5 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 13:00:24 | 20.34 | 1.253 | 18.78 | 12.071 | 6.81 | 41.2 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 13:05:24 | 20.34 | 1.253 | 18.78 | 12.069 | 6.81 | 41.4 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 13:10:24 | 20.34 | 1.253 | 18.78 | 12.067 | 6.81 | 41.1 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 13:15:24 | 20.34 | 1.253 | 18.77 | 12.063 | 6.81 | 41.1 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 13:20:24 | 20.34 | 1.252 | 18.77 | 12.062 | 6.81 | 41.4 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 13:25:24 | 20.34 | 1.253 | 18.77 | 12.059 | 6.81 | 41.1 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 13:30:24 | 20.34 | 1.253 | 18.77 | 12.058 | 6.81 | 41.2 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 13:35:24 | 20.34 | 1.252 | 18.77 | 12.054 | 6.8 | 41.8 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 13:40:24 | 20.34 | 1.252 | 18.77 | 12.05 | 6.81 | 41.4 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 13:45:24 | 20.34 | 1.253 | 18.77 | 12.051 | 6.81 | 41.1 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 13:50:24 | 20.34 | 1.252 | 18.77 | 12.048 | 6.81 | 41.2 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 13:55:24 | 20.34 | 1.252 | 18.77 | 12.043 | 6.81 | 41.3 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 14:00:24 | 20.34 | 1.252 | 18.77 | 12.042 | 6.81 | 41.2 | -45 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 14:05:24 | 20.34 | 1.252 | 18.76 | 12.04 | 6.81 | 41.3 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 14:10:24 | 20.34 | 1.252 | 18.76 | 12.04 | 6.81 | 41.3 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 14:15:24 | 20.34 | 1.252 | 18.76 | 12.038 | 6.81 | 41.4 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 14:20:24 | 20.34 | 1.252 | 18.76 | 12.033 | 6.81 | 41.3 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 14:25:24 | 20.34 | 1.252 | 18.76 | 12.032 | 6.81 | 41.4 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 14:30:24 | 20.34 | 1.252 | 18.76 | 12.03 | 6.8 | 41.5 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 14:35:24 | 20.34 | 1.252 | 18.76 | 12.028 | 6.8 | 41.9 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 14:40:24 | 20.34 | 1.252 | 18.76 | 12.029 | 6.8 | 41.6 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 14:45:24 | 20.34 | 1.252 | 18.76 | 12.026 | 6.8 | 41.6 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 14:50:24 | 20.34 | 1.252 | 18.76 | 12.024 | 6.81 | 41.2 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 14:55:24 | 20.34 | 1.252 | 18.76 | 12.023 | 6.81 | 41.1 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 15:00:24 | 20.34 | 1.252 | 18.76 | 12.021 | 6.81 | 41.5 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 15:05:24 | 20.34 | 1.252 | 18.76 | 12.023 | 6.81 | 41.5 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 15:10:24 | 20.34 | 1.252 | 18.76 | 12.02 | 6.8 | 41.6 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 15:15:24 | 20.34 | 1.252 | 18.76 | 12.018 | 6.8 | 41.7 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 15:20:24 | 20.34 | 1.252 | 18.76 | 12.019 | 6.8 | 41.6 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 15:25:24 | 20.34 | 1.252 | 18.76 | 12.019 | 6.8 | 41.7 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 15:30:24 | 20.34 | 1.252 | 18.75 | 12.017 | 6.8 | 41.6 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 15:35:24 | 20.34 | 1.252 | 18.75 | 12.011 | 6.81 | 41.4 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 15:40:24 | 20.34 | 1.252 | 18.75 | 12.007 | 6.8 | 41.5 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 15:45:24 | 20.34 | 1.252 | 18.75 | 12.006 | 6.8 | 41.7 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 15:50:24 | 20.34 | 1.251 | 18.75 | 12.003 | 6.8 | 41.9 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 15:55:24 | 20.34 | 1.252 | 18.75 | 12.001 | 6.8 | 42 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 16:00:24 | 20.34 | 1.252 | 18.75 | 12.003 | 6.8 | 41.7 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 16:05:24 | 20.34 | 1.252 | 18.75 | 12 | 6.8 | 41.9 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 16:10:24 | 20.34 | 1.252 | 18.75 | 11.999 | 6.8 | 41.9 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 16:15:24 | 20.34 | 1.252 | 18.75 | 11.997 | 6.8 | 42.1 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 16:20:24 | 20.34 | 1.252 | 18.75 | 11.995 | 6.8 | 42 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 16:25:24 | 20.34 | 1.251 | 18.75 | 11.998 | 6.8 | 42 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 16:30:24 | 20.34 | 1.252 | 18.75 | 11.999 | 6.79 | 42.1 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 16:35:24 | 20.34 | 1.251 | 18.75 | 11.997 | 6.79 | 42.6 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 16:40:24 | 20.34 | 1.251 | 18.75 | 11.996 | 6.79 | 42.5 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 16:45:24 | 20.34 | 1.252 | 18.74 | 11.993 | 6.79 | 42.2 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 16:50:24 | 20.34 | 1.252 | 18.75 | 11.996 | 6.79 | 42.4 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 16:55:24 | 20.34 | 1.252 | 18.75 | 11.994 | 6.79 | 42.2 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 17:00:24 | 20.34 | 1.251 | 18.75 | 11.995 | 6.79 | 42.4 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 17:05:24 | 20.34 | 1.251 | 18.75 | 11.995 | 6.79 | 42.3 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 17:10:24 | 20.34 | 1.252 | 18.74 | 11.993 | 6.78 | 42.7 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 17:15:24 | 20.34 | 1.251 | 18.75 | 11.995 | 6.79 | 42.5 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 17:20:24 | 20.34 | 1.251 | 18.75 | 11.998 | 6.79 | 42.5 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 17:25:24 | 20.34 | 1.251 | 18.75 | 11.996 | 6.79 | 42.4 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 17:30:24 | 20.34 | 1.252 | 18.75 | 11.997 | 6.78 | 43 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 17:35:24 | 20.34 | 1.252 | 18.75 | 11.996 | 6.79 | 42.5 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 17:40:24 | 20.34 | 1.252 | 18.75 | 11.998 | 6.79 | 42.4 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 17:45:24 | 20.34 | 1.252 | 18.75 | 11.998 | 6.79 | 42.7 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 17:50:24 | 20.34 | 1.251 | 18.75 | 12 | 6.79 | 42.4 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 17:55:24 | 20.34 | 1.252 | 18.75 | 12 | 6.79 | 42.3 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 18:00:24 | 20.34 | 1.251 | 18.75 | 12 | 6.78 | 42.7 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 18:05:24 | 20.34 | 1.251 | 18.75 | 12 | 6.78 | 42.8 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 18:10:24 | 20.34 | 1.251 | 18.75 | 12 | 6.79 | 42.5 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 18:15:24 | 20.34 | 1.252 | 18.75 | 12.002 | 6.79 | 42.3 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 18:20:24 | 20.34 | 1.252 | 18.75 | 12.003 | 6.79 | 42.5 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 18:25:24 | 20.34 | 1.251 | 18.75 | 12.003 | 6.79 | 42.3 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 18:30:24 | 20.34 | 1.252 | 18.75 | 12.003 | 6.79 | 42.4 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 18:35:24 | 20.34 | 1.251 | 18.75 | 12.006 | 6.79 | 42.3 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 18:40:24 | 20.34 | 1.251 | 18.75 | 12.006 | 6.79 | 42.5 | -46 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 18:45:24 | 20.34 | 1.252 | 18.75 | 12.008 | 6.79 | 42.5 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 18:50:24 | 20.34 | 1.251 | 18.75 | 12.01 | 6.79 | 42.4 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 18:55:24 | 20.34 | 1.252 | 18.75 | 12.011 | 6.79 | 42.5 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 19:00:24 | 20.34 | 1.251 | 18.75 | 12.012 | 6.79 | 42.7 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 19:05:24 | 20.34 | 1.252 | 18.75 | 12.015 | 6.79 | 42.6 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 19:10:24 | 20.34 | 1.251 | 18.75 | 12.013 | 6.78 | 42.7 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 19:15:24 | 20.34 | 1.251 | 18.76 | 12.018 | 6.79 | 42.5 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 19:20:24 | 20.34 | 1.251 | 18.75 | 12.018 | 6.79 | 42.5 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 19:25:24 | 20.34 | 1.251 | 18.76 | 12.02 | 6.79 | 42.4 | -47 | 2.4 | 0.22 |
| 4/18/2012 | 19:30:24 | 20.34 | 1.251 | 18.76 | 12.022 | 6.79 | 42.4 | -47 | 2.4 | 0.22 |
| 4/18/2012 | 19:35:24 | 20.34 | 1.251 | 18.76 | 12.024 | 6.79 | 42.2 | -47 | 2.4 | 0.22 |
| 4/18/2012 | 19:40:24 | 20.34 | 1.252 | 18.76 | 12.026 | 6.79 | 42.2 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 19:45:24 | 20.34 | 1.251 | 18.76 | 12.028 | 6.79 | 42.4 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 19:50:24 | 20.34 | 1.252 | 18.76 | 12.034 | 6.79 | 42.2 | -47 | 2.4 | 0.22 |
| 4/18/2012 | 19:55:24 | 20.34 | 1.251 | 18.76 | 12.035 | 6.79 | 42.6 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 20:00:24 | 20.34 | 1.251 | 18.76 | 12.038 | 6.78 | 43 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 20:05:24 | 20.34 | 1.251 | 18.76 | 12.038 | 6.77 | 43.3 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 20:10:24 | 20.34 | 1.251 | 18.77 | 12.043 | 6.77 | 43.7 | -46 | 2.4 | 0.22 |
| 4/18/2012 | 20:15:24 | 20.34 | 1.251 | 18.77 | 12.044 | 6.76 | 44 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 20:20:24 | 20.34 | 1.251 | 18.77 | 12.047 | 6.76 | 44 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 20:25:24 | 20.34 | 1.252 | 18.77 | 12.048 | 6.76 | 44.1 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 20:30:24 | 20.34 | 1.251 | 18.77 | 12.05 | 6.75 | 44.6 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 20:35:24 | 20.34 | 1.251 | 18.77 | 12.053 | 6.75 | 44.4 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 20:40:24 | 20.34 | 1.251 | 18.77 | 12.056 | 6.75 | 44.7 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 20:45:24 | 20.34 | 1.251 | 18.77 | 12.061 | 6.75 | 44.8 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 20:50:24 | 20.34 | 1.251 | 18.77 | 12.063 | 6.75 | 44.9 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 20:55:24 | 20.34 | 1.251 | 18.78 | 12.066 | 6.75 | 45 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 21:00:24 | 20.34 | 1.251 | 18.78 | 12.07 | 6.73 | 45.6 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 21:05:24 | 20.34 | 1.251 | 18.78 | 12.077 | 6.73 | 45.9 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 21:10:24 | 20.34 | 1.251 | 18.78 | 12.081 | 6.73 | 46.1 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 21:15:24 | 20.34 | 1.251 | 18.79 | 12.088 | 6.72 | 46.7 | -41 | 2.4 | 0.22 |
| 4/18/2012 | 21:20:24 | 20.34 | 1.251 | 18.79 | 12.095 | 6.73 | 46.1 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 21:25:24 | 20.34 | 1.251 | 18.79 | 12.102 | 6.72 | 46.4 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 21:30:24 | 20.34 | 1.251 | 18.79 | 12.107 | 6.72 | 46.5 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 21:35:24 | 20.34 | 1.251 | 18.8 | 12.113 | 6.72 | 46.6 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 21:40:24 | 20.34 | 1.251 | 18.8 | 12.118 | 6.71 | 46.9 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 21:45:24 | 20.34 | 1.251 | 18.8 | 12.12 | 6.71 | 46.9 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 21:50:24 | 20.34 | 1.251 | 18.8 | 12.124 | 6.72 | 46.7 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 21:55:24 | 20.34 | 1.251 | 18.8 | 12.126 | 6.71 | 47 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 22:00:24 | 20.34 | 1.251 | 18.8 | 12.126 | 6.71 | 46.9 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 22:05:24 | 20.34 | 1.251 | 18.8 | 12.131 | 6.71 | 46.9 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 22:10:24 | 20.34 | 1.251 | 18.81 | 12.136 | 6.71 | 47 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 22:15:24 | 20.34 | 1.25 | 18.81 | 12.139 | 6.71 | 46.9 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 22:20:24 | 20.34 | 1.251 | 18.81 | 12.138 | 6.7 | 47.3 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 22:25:24 | 20.34 | 1.251 | 18.81 | 12.138 | 6.7 | 47.5 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 22:30:24 | 20.34 | 1.251 | 18.81 | 12.143 | 6.7 | 47.4 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 22:35:24 | 20.34 | 1.251 | 18.81 | 12.144 | 6.7 | 47.6 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 22:40:24 | 20.34 | 1.251 | 18.81 | 12.146 | 6.7 | 47.5 | -42 | 2.4 | 0.22 |
| 4/18/2012 | 22:45:24 | 20.34 | 1.25 | 18.81 | 12.144 | 6.71 | 47 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 22:50:24 | 20.34 | 1.251 | 18.81 | 12.145 | 6.7 | 47.6 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 22:55:24 | 20.34 | 1.25 | 18.81 | 12.145 | 6.69 | 48.2 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 23:00:24 | 20.34 | 1.25 | 18.81 | 12.146 | 6.69 | 48 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 23:05:24 | 20.34 | 1.251 | 18.81 | 12.145 | 6.7 | 47.4 | -43 | 2.4 | 0.22 |
| 4/18/2012 | 23:10:24 | 20.34 | 1.251 | 18.81 | 12.145 | 6.71 | 47.2 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 23:15:24 | 20.34 | 1.25 | 18.81 | 12.144 | 6.71 | 47.3 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 23:20:24 | 20.34 | 1.25 | 18.81 | 12.143 | 6.7 | 47.7 | -45 | 2.4 | 0.22 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 23:25:24 | 20.34 | 1.25 | 18.81 | 12.142 | 6.7 | 47.8 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 23:30:24 | 20.34 | 1.25 | 18.81 | 12.14 | 6.7 | 47.3 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 23:35:24 | 20.34 | 1.25 | 18.81 | 12.137 | 6.7 | 47.9 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 23:40:24 | 20.34 | 1.25 | 18.81 | 12.135 | 6.7 | 47.5 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 23:45:24 | 20.34 | 1.25 | 18.81 | 12.134 | 6.69 | 48 | -44 | 2.4 | 0.22 |
| 4/18/2012 | 23:50:24 | 20.34 | 1.25 | 18.8 | 12.133 | 6.7 | 47.4 | -45 | 2.4 | 0.22 |
| 4/18/2012 | 23:55:24 | 20.34 | 1.25 | 18.8 | 12.13 | 6.71 | 47.2 | -46 | 2.4 | 0.22 |
| 4/19/2012 | 0:00:24 | 20.34 | 1.251 | 18.8 | 12.129 | 6.7 | 47.4 | -46 | 2.4 | 0.22 |
| 4/19/2012 | 0:05:24 | 20.34 | 1.25 | 18.8 | 12.123 | 6.7 | 47.6 | -47 | 2.4 | 0.22 |
| 4/19/2012 | 0:10:24 | 20.34 | 1.25 | 18.8 | 12.122 | 6.7 | 47.3 | -46 | 2.4 | 0.22 |
| 4/19/2012 | 0:15:24 | 20.34 | 1.25 | 18.8 | 12.119 | 6.7 | 47.4 | -46 | 2.4 | 0.22 |
| 4/19/2012 | 0:20:24 | 20.34 | 1.25 | 18.8 | 12.115 | 6.7 | 47.8 | -47 | 2.4 | 0.22 |
| 4/19/2012 | 0:25:24 | 20.34 | 1.25 | 18.8 | 12.113 | 6.7 | 47.6 | -46 | 2.4 | 0.22 |
| 4/19/2012 | 0:30:24 | 20.34 | 1.25 | 18.79 | 12.109 | 6.7 | 47.4 | -47 | 2.4 | 0.22 |
| 4/19/2012 | 0:35:24 | 20.34 | 1.25 | 18.79 | 12.105 | 6.7 | 47.3 | -47 | 2.4 | 0.22 |
| 4/19/2012 | 0:40:24 | 20.34 | 1.25 | 18.79 | 12.102 | 6.7 | 47.4 | -47 | 2.4 | 0.22 |
| 4/19/2012 | 0:45:24 | 20.34 | 1.25 | 18.79 | 12.096 | 6.71 | 47.2 | -47 | 2.4 | 0.22 |
| 4/19/2012 | 0:50:24 | 20.34 | 1.25 | 18.79 | 12.093 | 6.7 | 47.7 | -47 | 2.4 | 0.22 |
| 4/19/2012 | 0:55:24 | 20.34 | 1.25 | 18.79 | 12.09 | 6.71 | 47.3 | -48 | 2.4 | 0.22 |
| 4/19/2012 | 1:00:24 | 20.34 | 1.25 | 18.78 | 12.084 | 6.71 | 47.3 | -48 | 2.4 | 0.22 |
| 4/19/2012 | 1:05:24 | 20.34 | 1.25 | 18.78 | 12.083 | 6.7 | 47.5 | -48 | 2.4 | 0.22 |
| 4/19/2012 | 1:10:24 | 20.34 | 1.25 | 18.78 | 12.076 | 6.7 | 47.4 | -48 | 2.4 | 0.22 |
| 4/19/2012 | 1:15:24 | 20.34 | 1.25 | 18.78 | 12.075 | 6.7 | 47.4 | -49 | 2.4 | 0.22 |
| 4/19/2012 | 1:20:24 | 20.34 | 1.25 | 18.78 | 12.071 | 6.7 | 47.5 | -48 | 2.4 | 0.22 |
| 4/19/2012 | 1:25:24 | 20.34 | 1.25 | 18.78 | 12.068 | 6.7 | 47.4 | -49 | 2.4 | 0.22 |
| 4/19/2012 | 1:30:24 | 20.34 | 1.25 | 18.77 | 12.064 | 6.71 | 47 | -49 | 2.4 | 0.22 |
| 4/19/2012 | 1:35:24 | 20.34 | 1.25 | 18.77 | 12.061 | 6.71 | 47.2 | -49 | 2.4 | 0.22 |
| 4/19/2012 | 1:40:24 | 20.34 | 1.25 | 18.77 | 12.059 | 6.7 | 47.4 | -49 | 2.4 | 0.22 |
| 4/19/2012 | 1:45:24 | 20.34 | 1.25 | 18.77 | 12.055 | 6.7 | 47.7 | -46 | 2.4 | 0.22 |
| 4/19/2012 | 1:50:24 | 20.34 | 1.25 | 18.77 | 12.051 | 6.7 | 47.4 | -48 | 2.4 | 0.22 |
| 4/19/2012 | 1:55:24 | 20.34 | 1.25 | 18.77 | 12.049 | 6.7 | 47.4 | -49 | 2.4 | 0.22 |
| 4/19/2012 | 2:00:24 | 20.34 | 1.25 | 18.77 | 12.045 | 6.71 | 47.1 | -49 | 2.4 | 0.22 |
| 4/19/2012 | 2:05:24 | 20.34 | 1.25 | 18.77 | 12.043 | 6.7 | 47.4 | -49 | 2.4 | 0.22 |
| 4/19/2012 | 2:10:24 | 20.34 | 1.25 | 18.76 | 12.039 | 6.7 | 47.4 | -49 | 2.4 | 0.22 |
| 4/19/2012 | 2:15:24 | 20.34 | 1.25 | 18.76 | 12.036 | 6.71 | 47.2 | -50 | 2.4 | 0.22 |
| 4/19/2012 | 2:20:24 | 20.34 | 1.25 | 18.76 | 12.033 | 6.71 | 47.1 | -50 | 2.4 | 0.22 |
| 4/19/2012 | 2:25:24 | 20.34 | 1.25 | 18.76 | 12.031 | 6.71 | 47.1 | -50 | 2.4 | 0.22 |
| 4/19/2012 | 2:30:24 | 20.34 | 1.25 | 18.76 | 12.028 | 6.71 | 47.1 | -50 | 2.4 | 0.22 |
| 4/19/2012 | 2:35:24 | 20.34 | 1.25 | 18.76 | 12.026 | 6.71 | 47.2 | -50 | 2.4 | 0.22 |
| 4/19/2012 | 2:40:24 | 20.34 | 1.25 | 18.76 | 12.026 | 6.71 | 47.1 | -50 | 2.4 | 0.22 |
| 4/19/2012 | 2:45:24 | 20.34 | 1.25 | 18.76 | 12.024 | 6.71 | 47.1 | -50 | 2.4 | 0.22 |
| 4/19/2012 | 2:50:24 | 20.34 | 1.25 | 18.76 | 12.023 | 6.71 | 47.1 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 2:55:24 | 20.34 | 1.25 | 18.76 | 12.02 | 6.71 | 47.2 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 3:00:24 | 20.34 | 1.25 | 18.76 | 12.018 | 6.7 | 47.4 | -50 | 2.4 | 0.22 |
| 4/19/2012 | 3:05:24 | 20.34 | 1.25 | 18.75 | 12.017 | 6.7 | 47.7 | -50 | 2.4 | 0.22 |
| 4/19/2012 | 3:10:24 | 20.34 | 1.25 | 18.75 | 12.015 | 6.69 | 48 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 3:15:24 | 20.34 | 1.25 | 18.75 | 12.016 | 6.7 | 47.4 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 3:20:24 | 20.34 | 1.25 | 18.75 | 12.016 | 6.71 | 47.2 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 3:25:24 | 20.34 | 1.25 | 18.75 | 12.017 | 6.71 | 47.2 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 3:30:24 | 20.34 | 1.25 | 18.75 | 12.012 | 6.71 | 47.2 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 3:35:24 | 20.34 | 1.25 | 18.75 | 12.012 | 6.7 | 47.4 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 3:40:24 | 20.34 | 1.25 | 18.75 | 12.011 | 6.71 | 47 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 3:45:24 | 20.34 | 1.25 | 18.75 | 12.008 | 6.71 | 47.2 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 3:50:24 | 20.34 | 1.25 | 18.75 | 12.009 | 6.71 | 47.2 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 3:55:24 | 20.34 | 1.25 | 18.75 | 12.008 | 6.7 | 47.4 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 4:00:24 | 20.34 | 1.25 | 18.75 | 12.008 | 6.7 | 47.4 | -51 | 2.4 | 0.22 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/19/2012 | 4:05:24 | 20.34 | 1.25 | 18.75 | 12.005 | 6.7 | 47.5 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 4:10:24 | 20.34 | 1.25 | 18.75 | 12.002 | 6.7 | 47.7 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 4:15:24 | 20.34 | 1.25 | 18.75 | 12 | 6.69 | 48.2 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 4:20:24 | 20.34 | 1.25 | 18.75 | 11.998 | 6.7 | 47.8 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 4:25:24 | 20.34 | 1.25 | 18.75 | 11.998 | 6.7 | 47.9 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 4:30:24 | 20.34 | 1.25 | 18.75 | 11.997 | 6.69 | 48.4 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 4:35:24 | 20.34 | 1.25 | 18.75 | 11.995 | 6.69 | 48.4 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 4:40:24 | 20.34 | 1.25 | 18.75 | 11.995 | 6.69 | 48.3 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 4:45:24 | 20.34 | 1.25 | 18.74 | 11.994 | 6.69 | 48 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 4:50:24 | 20.34 | 1.25 | 18.75 | 11.995 | 6.69 | 48.2 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 4:55:24 | 20.34 | 1.25 | 18.74 | 11.993 | 6.69 | 47.9 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 5:00:24 | 20.34 | 1.25 | 18.74 | 11.991 | 6.69 | 48 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 5:05:24 | 20.34 | 1.25 | 18.74 | 11.994 | 6.68 | 48.5 | -51 | 2.4 | 0.22 |
| 4/19/2012 | 5:10:24 | 20.34 | 1.25 | 18.74 | 11.989 | 6.69 | 48 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 5:15:24 | 20.34 | 1.25 | 18.74 | 11.988 | 6.69 | 47.9 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 5:20:24 | 20.34 | 1.25 | 18.75 | 12.001 | 6.69 | 48.2 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 5:25:24 | 20.34 | 1.25 | 18.75 | 12.001 | 6.69 | 48.2 | -52 | 2.4 | 0.22 |
| 4/19/2012 | 5:30:24 | 20.35 | 1.25 | 18.75 | 11.998 | 6.69 | 48.3 | -54 | 2.4 | 0.22 |
| 4/19/2012 | 5:35:24 | 20.34 | 1.25 | 18.75 | 11.998 | 6.7 | 47.9 | -53 | 2.4 | 0.22 |
| 4/19/2012 | 5:40:24 | 20.34 | 1.25 | 18.75 | 11.995 | 6.69 | 48.3 | -55 | 2.4 | 0.22 |
| 4/19/2012 | 5:45:24 | 20.34 | 1.25 | 18.75 | 11.995 | 6.69 | 48.2 | -58 | 2.4 | 0.22 |
| 4/19/2012 | 5:50:24 | 20.34 | 1.25 | 18.75 | 11.995 | 6.69 | 48.3 | -59 | 2.4 | 0.22 |
| 4/19/2012 | 5:55:24 | 20.34 | 1.251 | 18.75 | 11.995 | 6.69 | 48.3 | -60 | 2.4 | 0.22 |
| 4/19/2012 | 6:00:24 | 20.34 | 1.25 | 18.75 | 11.996 | 6.69 | 48.3 | -60 | 2.4 | 0.22 |
| 4/19/2012 | 6:05:24 | 20.34 | 1.25 | 18.75 | 11.995 | 6.69 | 48.2 | -60 | 2.4 | 0.22 |
| 4/19/2012 | 6:10:24 | 20.34 | 1.25 | 18.75 | 11.997 | 6.69 | 48 | -59 | 2.4 | 0.22 |
| 4/19/2012 | 6:15:24 | 20.34 | 1.25 | 18.75 | 11.999 | 6.69 | 48.2 | -60 | 2.4 | 0.22 |
| 4/19/2012 | 6:20:24 | 20.34 | 1.25 | 18.75 | 12 | 6.68 | 48.5 | -61 | 2.4 | 0.22 |
| 4/19/2012 | 6:25:24 | 20.34 | 1.25 | 18.75 | 12 | 6.69 | 48.2 | -62 | 2.4 | 0.22 |
| 4/19/2012 | 6:30:24 | 20.34 | 1.25 | 18.75 | 12.001 | 6.69 | 48.1 | -62 | 2.4 | 0.22 |
| 4/19/2012 | 6:35:24 | 20.34 | 1.25 | 18.75 | 12.003 | 6.69 | 48.3 | -62 | 2.4 | 0.22 |
| 4/19/2012 | 6:40:24 | 20.34 | 1.25 | 18.75 | 12.003 | 6.69 | 48.3 | -62 | 2.4 | 0.22 |
| 4/19/2012 | 6:45:24 | 20.34 | 1.25 | 18.75 | 12.003 | 6.68 | 49 | -62 | 2.4 | 0.22 |
| 4/19/2012 | 6:50:24 | 20.34 | 1.25 | 18.75 | 12.005 | 6.69 | 48.4 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 6:55:24 | 20.34 | 1.25 | 18.75 | 12.007 | 6.68 | 48.6 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 7:00:24 | 20.34 | 1.25 | 18.75 | 12.008 | 6.68 | 48.8 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 7:05:24 | 20.34 | 1.25 | 18.75 | 12.007 | 6.68 | 48.5 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 7:10:24 | 20.34 | 1.25 | 18.75 | 12.011 | 6.68 | 48.6 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 7:15:24 | 20.34 | 1.25 | 18.75 | 12.011 | 6.68 | 48.6 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 7:20:24 | 20.34 | 1.25 | 18.75 | 12.014 | 6.67 | 49.1 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 7:25:24 | 20.34 | 1.25 | 18.76 | 12.019 | 6.67 | 49.1 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 7:30:24 | 20.34 | 1.25 | 18.76 | 12.022 | 6.67 | 49.1 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 7:35:24 | 20.34 | 1.25 | 18.76 | 12.023 | 6.68 | 48.6 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 7:40:24 | 20.34 | 1.25 | 18.76 | 12.025 | 6.68 | 48.8 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 7:45:24 | 20.34 | 1.249 | 18.76 | 12.024 | 6.68 | 48.9 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 7:50:24 | 20.34 | 1.25 | 18.76 | 12.029 | 6.67 | 49.3 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 7:55:24 | 20.34 | 1.25 | 18.76 | 12.031 | 6.67 | 49.3 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 8:00:24 | 20.34 | 1.25 | 18.76 | 12.031 | 6.67 | 49.2 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 8:05:24 | 20.34 | 1.25 | 18.76 | 12.034 | 6.67 | 49.1 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 8:10:24 | 20.34 | 1.25 | 18.76 | 12.036 | 6.68 | 48.9 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 8:15:24 | 20.34 | 1.249 | 18.76 | 12.037 | 6.67 | 49.1 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 8:20:24 | 20.34 | 1.25 | 18.76 | 12.037 | 6.68 | 48.8 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 8:25:24 | 20.34 | 1.25 | 18.76 | 12.039 | 6.67 | 49.4 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 8:30:24 | 20.34 | 1.249 | 18.77 | 12.045 | 6.68 | 48.9 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 8:35:24 | 20.34 | 1.249 | 18.77 | 12.048 | 6.67 | 49.2 | -62 | 2.4 | 0.22 |
| 4/19/2012 | 8:40:24 | 20.34 | 1.25 | 18.77 | 12.047 | 6.67 | 49.4 | -62 | 2.4 | 0.22 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/19/2012 | 8:45:24 | 20.34 | 1.249 | 18.77 | 12.049 | 6.67 | 49.1 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 8:50:24 | 20.34 | 1.25 | 18.77 | 12.05 | 6.67 | 49.3 | -62 | 2.4 | 0.22 |
| 4/19/2012 | 8:55:24 | 20.34 | 1.25 | 18.77 | 12.052 | 6.68 | 49 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 9:00:24 | 20.34 | 1.249 | 18.77 | 12.054 | 6.67 | 49.3 | -63 | 2.4 | 0.22 |
| 4/19/2012 | 9:05:24 | 20.34 | 1.25 | 18.77 | 12.057 | 6.68 | 48.8 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 9:10:24 | 20.34 | 1.249 | 18.77 | 12.058 | 6.68 | 49 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 9:15:24 | 20.34 | 1.249 | 18.77 | 12.059 | 6.67 | 49.3 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 9:20:24 | 20.34 | 1.249 | 18.77 | 12.063 | 6.67 | 49.3 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 9:25:24 | 20.34 | 1.249 | 18.78 | 12.066 | 6.68 | 49 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 9:30:24 | 20.34 | 1.25 | 18.78 | 12.072 | 6.68 | 48.9 | -66 | 2.4 | 0.22 |
| 4/19/2012 | 9:35:24 | 20.34 | 1.25 | 18.78 | 12.075 | 6.68 | 48.8 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 9:40:24 | 20.34 | 1.249 | 18.78 | 12.076 | 6.67 | 49.4 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 9:45:24 | 20.34 | 1.249 | 18.78 | 12.08 | 6.67 | 49.3 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 9:50:24 | 20.34 | 1.249 | 18.78 | 12.086 | 6.67 | 49.4 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 9:55:24 | 20.34 | 1.249 | 18.79 | 12.092 | 6.67 | 49.4 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 10:00:24 | 20.34 | 1.249 | 18.79 | 12.095 | 6.67 | 49.3 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 10:05:24 | 20.34 | 1.249 | 18.79 | 12.1 | 6.67 | 49.1 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 10:10:24 | 20.34 | 1.25 | 18.79 | 12.105 | 6.68 | 49 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 10:15:24 | 20.34 | 1.25 | 18.79 | 12.107 | 6.67 | 49.5 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 10:20:24 | 20.34 | 1.249 | 18.8 | 12.112 | 6.67 | 49.2 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 10:25:24 | 20.34 | 1.25 | 18.8 | 12.113 | 6.67 | 49.1 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 10:30:24 | 20.34 | 1.249 | 18.8 | 12.118 | 6.67 | 49.4 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 10:35:24 | 20.34 | 1.249 | 18.8 | 12.12 | 6.67 | 49.3 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 10:40:24 | 20.34 | 1.249 | 18.8 | 12.124 | 6.67 | 49.1 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 10:45:24 | 20.34 | 1.249 | 18.8 | 12.125 | 6.67 | 49.1 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 10:50:24 | 20.34 | 1.249 | 18.8 | 12.126 | 6.67 | 49.3 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 10:55:24 | 20.34 | 1.25 | 18.8 | 12.127 | 6.67 | 49.4 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 11:00:24 | 20.34 | 1.249 | 18.8 | 12.131 | 6.68 | 48.8 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 11:05:24 | 20.34 | 1.249 | 18.8 | 12.132 | 6.67 | 49.5 | -64 | 2.4 | 0.22 |
| 4/19/2012 | 11:10:24 | 20.34 | 1.249 | 18.81 | 12.134 | 6.67 | 49.4 | -65 | 2.4 | 0.22 |
| 4/19/2012 | 11:15:24 | 20.34 | 1.249 | 18.81 | 12.135 | 6.67 | 49.3 | -66 | 2.4 | 0.22 |
| 4/19/2012 | 11:20:24 | 20.34 | 1.249 | 18.81 | 12.136 | 6.67 | 49.3 | -66 | 2.4 | 0.22 |
| 4/19/2012 | 11:25:24 | 20.34 | 1.249 | 18.81 | 12.134 | 6.67 | 49.1 | -67 | 2.4 | 0.22 |
| 4/19/2012 | 11:30:24 | 20.34 | 1.249 | 18.81 | 12.136 | 6.67 | 49.2 | -68 | 2.4 | 0.22 |
| 4/19/2012 | 11:35:24 | 20.34 | 1.249 | 18.81 | 12.136 | 6.67 | 49.1 | -67 | 2.4 | 0.22 |
| 4/19/2012 | 11:40:24 | 20.34 | 1.249 | 18.81 | 12.138 | 6.67 | 49.6 | -67 | 2.4 | 0.22 |
| 4/19/2012 | 11:45:24 | 20.34 | 1.249 | 18.81 | 12.137 | 6.67 | 49.3 | -67 | 2.4 | 0.22 |
| 4/19/2012 | 11:50:24 | 20.34 | 1.249 | 18.81 | 12.136 | 6.66 | 49.7 | -67 | 2.4 | 0.22 |
| 4/19/2012 | 11:55:24 | 20.34 | 1.249 | 18.81 | 12.138 | 6.67 | 49.6 | -67 | 2.4 | 0.22 |
| 4/19/2012 | 12:00:24 | 20.34 | 1.25 | 18.8 | 12.129 | 6.67 | 49.4 | -68 | 2.4 | 0.22 |
| 4/19/2012 | 12:05:24 | 20.34 | 1.249 | 18.8 | 12.128 | 6.68 | 49 | -70 | 2.4 | 0.22 |
| 4/19/2012 | 12:10:24 | 20.34 | 1.249 | 18.8 | 12.126 | 6.68 | 49 | -70 | 2.4 | 0.22 |
| 4/19/2012 | 12:15:24 | 20.34 | 1.249 | 18.8 | 12.123 | 6.68 | 48.6 | -71 | 2.4 | 0.22 |
| 4/19/2012 | 12:20:24 | 20.34 | 1.249 | 18.8 | 12.12 | 6.67 | 49.3 | -71 | 2.4 | 0.22 |
| 4/19/2012 | 12:25:24 | 20.34 | 1.249 | 18.8 | 12.115 | 6.68 | 49 | -71 | 2.4 | 0.22 |
| 4/19/2012 | 12:30:24 | 20.34 | 1.249 | 18.8 | 12.114 | 6.66 | 49.7 | -70 | 2.4 | 0.22 |
| 4/19/2012 | 12:35:24 | 20.34 | 1.249 | 18.79 | 12.109 | 6.67 | 49.5 | -70 | 2.4 | 0.22 |
| 4/19/2012 | 12:40:24 | 20.34 | 1.249 | 18.79 | 12.106 | 6.67 | 49.2 | -71 | 2.4 | 0.22 |
| 4/19/2012 | 12:45:24 | 20.34 | 1.25 | 18.79 | 12.103 | 6.67 | 49.3 | -72 | 2.4 | 0.22 |
| 4/19/2012 | 12:50:24 | 20.34 | 1.249 | 18.79 | 12.099 | 6.67 | 49.3 | -72 | 2.4 | 0.22 |
| 4/19/2012 | 12:55:24 | 20.34 | 1.25 | 18.79 | 12.094 | 6.67 | 49.3 | -72 | 2.4 | 0.22 |
| 4/19/2012 | 13:00:24 | 20.34 | 1.249 | 18.79 | 12.093 | 6.67 | 49.1 | -72 | 2.4 | 0.22 |

VOPAK-6-MW-33

| Date | Time | Temp | SpCond | PressureA | Depth | pH | pHmV | ORP | ODO% | ODO Conc |
|---|---|---|---|---|---|---|---|---|---|---|
| M/D/Y | hh:mm:ss | C | mS/cm | psia | ft | | mV | mV | % | mg/L |
| 4/12/2012 | 13:40:32 | 23.39 | 0.007 | 14.73 | 1.596 | 7.2 | -24.4 | 143 | 93.8 | 7.98 |
| 4/12/2012 | 13:45:31 | 23.43 | 0.007 | 14.73 | 1.597 | 7.18 | -23.6 | 145 | 93.8 | 7.98 |
| 4/12/2012 | 13:50:31 | 23.44 | 0.007 | 14.73 | 1.603 | 7.16 | -22.5 | 146 | 94 | 8 |
| 4/12/2012 | 13:55:32 | 23.44 | 0.007 | 14.73 | 1.603 | 7.16 | -22.5 | 146 | 94 | 8 |
| 4/12/2012 | 14:00:32 | 23.38 | 0.007 | 14.73 | 1.612 | 7.07 | -17.2 | 142 | 94.1 | 8.02 |
| 4/12/2012 | 14:05:32 | 23.43 | 0.006 | 14.73 | 1.613 | 7.09 | -18.5 | 145 | 94.1 | 8.01 |
| 4/12/2012 | 14:10:31 | 23.55 | 0.006 | 14.73 | 1.608 | 7.12 | -19.8 | 145 | 94.2 | 8 |
| 4/12/2012 | 14:15:31 | 23.67 | 0.005 | 14.73 | 1.609 | 7.14 | -21.2 | 146 | 94.1 | 7.97 |
| 4/12/2012 | 14:20:31 | 23.79 | 0.005 | 14.73 | 1.611 | 7.16 | -22.5 | 146 | 94.2 | 7.96 |
| 4/12/2012 | 14:25:32 | 23.89 | 0.005 | 14.74 | 1.635 | 7.18 | -23.6 | 146 | 94.3 | 7.96 |
| 4/12/2012 | 14:30:31 | 23.97 | 0.005 | 14.73 | 1.61 | 7.2 | -24.6 | 146 | 94.3 | 7.95 |
| 4/12/2012 | 14:35:32 | 24.04 | 0.005 | 14.73 | 1.609 | 7.21 | -25.5 | 146 | 94.4 | 7.94 |
| 4/12/2012 | 14:40:31 | 24.09 | 0.005 | 14.73 | 1.612 | 7.22 | -26.1 | 146 | 94.5 | 7.94 |
| 4/12/2012 | 14:45:32 | 24.14 | 0.005 | 14.73 | 1.609 | 7.23 | -26.6 | 147 | 94.5 | 7.93 |
| 4/12/2012 | 14:50:31 | 24.25 | 0.005 | 14.73 | 1.603 | 7.24 | -26.8 | 141 | 94.3 | 7.9 |
| 4/12/2012 | 14:55:32 | 23.98 | 0.005 | 14.73 | 1.602 | 7.14 | -21 | 145 | 94.6 | 7.97 |
| 4/12/2012 | 15:00:32 | 23.74 | 0.006 | 14.73 | 1.597 | 7.11 | -19.2 | 145 | 94.9 | 8.02 |
| 4/12/2012 | 15:05:32 | 21.66 | 0 | 14.73 | 1.605 | 6.51 | 15.5 | 72 | 94 | 8.27 |
| 4/12/2012 | 15:10:32 | 21.14 | 0.533 | 18.81 | 11.063 | 5.54 | 71.5 | -217 | 10.8 | 0.96 |
| 4/12/2012 | 15:15:32 | 21.2 | 0.535 | 18.74 | 10.895 | 5.54 | 71.5 | -219 | 7.9 | 0.7 |
| 4/12/2012 | 15:20:32 | 21.22 | 0.536 | 18.73 | 10.865 | 5.54 | 71.5 | -192 | 6.8 | 0.6 |
| 4/12/2012 | 15:25:32 | 21.21 | 0.536 | 18.72 | 10.851 | 5.54 | 71.5 | -201 | 6 | 0.53 |
| 4/12/2012 | 15:30:32 | 21.19 | 0.536 | 18.72 | 10.842 | 5.54 | 71.5 | -193 | 5.5 | 0.49 |
| 4/12/2012 | 15:35:32 | 21.2 | 0.535 | 18.72 | 10.832 | 5.54 | 71.4 | -182 | 5.2 | 0.46 |
| 4/12/2012 | 15:40:32 | 21.19 | 0.535 | 18.71 | 10.826 | 5.54 | 71.4 | -190 | 4.9 | 0.43 |
| 4/12/2012 | 15:45:32 | 21.18 | 0.535 | 18.71 | 10.824 | 5.54 | 71.2 | -187 | 4.8 | 0.42 |
| 4/12/2012 | 15:50:32 | 21.18 | 0.535 | 18.71 | 10.824 | 5.54 | 71.2 | -187 | 4.5 | 0.4 |
| 4/12/2012 | 15:55:32 | 21.18 | 0.534 | 18.71 | 10.824 | 5.55 | 71.2 | -182 | 4.4 | 0.39 |
| 4/12/2012 | 16:00:32 | 21.18 | 0.534 | 18.71 | 10.822 | 5.55 | 71 | -179 | 4.3 | 0.38 |
| 4/12/2012 | 16:05:32 | 21.18 | 0.534 | 18.71 | 10.819 | 5.55 | 71 | -177 | 4.2 | 0.37 |
| 4/12/2012 | 16:10:32 | 21.17 | 0.534 | 18.71 | 10.822 | 5.55 | 71 | -174 | 4.1 | 0.37 |
| 4/12/2012 | 16:15:32 | 21.18 | 0.534 | 18.71 | 10.821 | 5.55 | 70.9 | -171 | 4 | 0.36 |
| 4/12/2012 | 16:20:32 | 21.18 | 0.534 | 18.71 | 10.821 | 5.55 | 70.9 | -177 | 4 | 0.35 |
| 4/12/2012 | 16:25:32 | 21.18 | 0.534 | 18.71 | 10.82 | 5.55 | 70.9 | -197 | 3.9 | 0.34 |
| 4/12/2012 | 16:30:32 | 21.14 | 0.533 | 18.71 | 10.824 | 5.55 | 70.8 | -156 | 3.8 | 0.34 |
| 4/12/2012 | 16:35:32 | 21.15 | 0.533 | 18.71 | 10.824 | 5.55 | 70.7 | -155 | 3.8 | 0.34 |
| 4/12/2012 | 16:40:32 | 21.17 | 0.533 | 18.71 | 10.821 | 5.55 | 70.7 | -158 | 3.7 | 0.33 |
| 4/12/2012 | 16:45:32 | 21.19 | 0.533 | 18.71 | 10.82 | 5.55 | 70.7 | -160 | 3.7 | 0.33 |
| 4/12/2012 | 16:50:32 | 21.19 | 0.533 | 18.71 | 10.82 | 5.55 | 70.7 | -159 | 3.7 | 0.33 |
| 4/12/2012 | 16:55:32 | 21.19 | 0.533 | 18.71 | 10.82 | 5.55 | 70.7 | -156 | 3.6 | 0.32 |
| 4/12/2012 | 17:00:32 | 21.19 | 0.533 | 18.71 | 10.822 | 5.55 | 70.7 | -153 | 3.6 | 0.32 |
| 4/12/2012 | 17:05:32 | 21.19 | 0.533 | 18.71 | 10.818 | 5.55 | 70.7 | -147 | 3.6 | 0.32 |
| 4/12/2012 | 17:10:32 | 21.19 | 0.533 | 18.71 | 10.819 | 5.56 | 70.6 | -150 | 3.6 | 0.32 |
| 4/12/2012 | 17:15:32 | 21.19 | 0.533 | 18.71 | 10.817 | 5.56 | 70.6 | -152 | 3.5 | 0.31 |
| 4/12/2012 | 17:20:32 | 21.19 | 0.533 | 18.71 | 10.818 | 5.56 | 70.6 | -148 | 3.5 | 0.31 |
| 4/12/2012 | 17:25:32 | 21.18 | 0.533 | 18.71 | 10.817 | 5.56 | 70.6 | -148 | 3.5 | 0.31 |
| 4/12/2012 | 17:30:32 | 21.17 | 0.533 | 18.71 | 10.819 | 5.56 | 70.4 | -152 | 3.5 | 0.31 |
| 4/12/2012 | 17:35:32 | 21.16 | 0.533 | 18.71 | 10.819 | 5.56 | 70.4 | -152 | 3.5 | 0.31 |
| 4/12/2012 | 17:40:32 | 21.19 | 0.533 | 18.71 | 10.819 | 5.56 | 70.5 | -149 | 3.5 | 0.31 |
| 4/12/2012 | 17:45:32 | 21.19 | 0.533 | 18.71 | 10.819 | 5.56 | 70.5 | -150 | 3.5 | 0.31 |
| 4/12/2012 | 17:50:32 | 21.18 | 0.533 | 18.71 | 10.818 | 5.56 | 70.4 | -149 | 3.4 | 0.31 |
| 4/12/2012 | 17:55:32 | 21.19 | 0.533 | 18.71 | 10.817 | 5.56 | 70.5 | -148 | 3.4 | 0.31 |
| 4/12/2012 | 18:00:32 | 21.19 | 0.533 | 18.71 | 10.816 | 5.56 | 70.4 | -145 | 3.4 | 0.3 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/12/2012 | 18:05:32 | 21.18 | 0.533 | 18.71 | 10.816 | 5.56 | 70.4 | -143 | 3.4 | 0.3 |
| 4/12/2012 | 18:10:32 | 21.19 | 0.533 | 18.71 | 10.819 | 5.56 | 70.4 | -147 | 3.4 | 0.3 |
| 4/12/2012 | 18:15:32 | 21.2 | 0.533 | 18.71 | 10.816 | 5.56 | 70.4 | -143 | 3.4 | 0.3 |
| 4/12/2012 | 18:20:32 | 21.19 | 0.533 | 18.71 | 10.816 | 5.56 | 70.4 | -145 | 3.4 | 0.3 |
| 4/12/2012 | 18:25:32 | 21.19 | 0.533 | 18.71 | 10.815 | 5.56 | 70.4 | -142 | 3.4 | 0.3 |
| 4/12/2012 | 18:30:32 | 21.19 | 0.533 | 18.71 | 10.816 | 5.56 | 70.4 | -141 | 3.4 | 0.3 |
| 4/12/2012 | 18:35:32 | 21.18 | 0.533 | 18.71 | 10.816 | 5.56 | 70.4 | -141 | 3.4 | 0.3 |
| 4/12/2012 | 18:40:32 | 21.18 | 0.533 | 18.71 | 10.815 | 5.56 | 70.4 | -139 | 3.4 | 0.3 |
| 4/12/2012 | 18:45:32 | 21.18 | 0.533 | 18.71 | 10.81 | 5.56 | 70.4 | -145 | 3.4 | 0.3 |
| 4/12/2012 | 18:50:32 | 21.18 | 0.533 | 18.71 | 10.809 | 5.56 | 70.4 | -139 | 3.4 | 0.3 |
| 4/12/2012 | 18:55:32 | 21.18 | 0.533 | 18.71 | 10.81 | 5.56 | 70.4 | -140 | 3.4 | 0.3 |
| 4/12/2012 | 19:00:32 | 21.18 | 0.533 | 18.7 | 10.807 | 5.56 | 70.3 | -142 | 3.4 | 0.3 |
| 4/12/2012 | 19:05:32 | 21.19 | 0.533 | 18.7 | 10.806 | 5.56 | 70.3 | -142 | 3.4 | 0.3 |
| 4/12/2012 | 19:10:32 | 21.18 | 0.533 | 18.71 | 10.809 | 5.56 | 70.2 | -140 | 3.4 | 0.3 |
| 4/12/2012 | 19:15:32 | 21.17 | 0.533 | 18.71 | 10.809 | 5.56 | 70.1 | -138 | 3.4 | 0.3 |
| 4/12/2012 | 19:20:32 | 21.17 | 0.533 | 18.71 | 10.809 | 5.56 | 70.3 | -136 | 3.4 | 0.3 |
| 4/12/2012 | 19:25:32 | 21.15 | 0.533 | 18.7 | 10.807 | 5.56 | 70.1 | -156 | 3.4 | 0.3 |
| 4/12/2012 | 19:30:32 | 21.16 | 0.533 | 18.7 | 10.806 | 5.56 | 70.1 | -153 | 3.4 | 0.3 |
| 4/12/2012 | 19:35:32 | 21.16 | 0.533 | 18.7 | 10.805 | 5.56 | 70.2 | -150 | 3.4 | 0.3 |
| 4/12/2012 | 19:40:32 | 21.16 | 0.533 | 18.7 | 10.806 | 5.56 | 70.2 | -145 | 3.4 | 0.3 |
| 4/12/2012 | 19:45:32 | 21.17 | 0.533 | 18.7 | 10.806 | 5.56 | 70.3 | -145 | 3.4 | 0.3 |
| 4/12/2012 | 19:50:32 | 21.17 | 0.534 | 18.7 | 10.805 | 5.56 | 70.3 | -136 | 3.4 | 0.3 |
| 4/12/2012 | 19:55:32 | 21.18 | 0.534 | 18.7 | 10.803 | 5.56 | 70.4 | -138 | 3.4 | 0.3 |
| 4/12/2012 | 20:00:32 | 21.18 | 0.534 | 18.7 | 10.803 | 5.56 | 70.4 | -135 | 3.4 | 0.3 |
| 4/12/2012 | 20:05:32 | 21.18 | 0.534 | 18.7 | 10.806 | 5.56 | 70.3 | -133 | 3.4 | 0.3 |
| 4/12/2012 | 20:10:32 | 21.18 | 0.534 | 18.7 | 10.804 | 5.56 | 70.3 | -134 | 3.4 | 0.3 |
| 4/12/2012 | 20:15:32 | 21.18 | 0.533 | 18.7 | 10.804 | 5.56 | 70.3 | -135 | 3.4 | 0.3 |
| 4/12/2012 | 20:20:32 | 21.18 | 0.533 | 18.7 | 10.805 | 5.56 | 70.3 | -131 | 3.4 | 0.3 |
| 4/12/2012 | 20:25:32 | 21.16 | 0.533 | 18.7 | 10.805 | 5.56 | 70.3 | -129 | 3.3 | 0.3 |
| 4/12/2012 | 20:30:32 | 21.14 | 0.533 | 18.7 | 10.805 | 5.56 | 70.3 | -130 | 3.4 | 0.3 |
| 4/12/2012 | 20:35:32 | 21.14 | 0.534 | 18.7 | 10.804 | 5.56 | 70.3 | -128 | 3.4 | 0.3 |
| 4/12/2012 | 20:40:32 | 21.14 | 0.534 | 18.7 | 10.806 | 5.56 | 70.2 | -130 | 3.3 | 0.3 |
| 4/12/2012 | 20:45:32 | 21.14 | 0.534 | 18.71 | 10.808 | 5.56 | 70.3 | -130 | 3.3 | 0.3 |
| 4/12/2012 | 20:50:32 | 21.16 | 0.533 | 18.7 | 10.805 | 5.56 | 70.3 | -131 | 3.3 | 0.3 |
| 4/12/2012 | 20:55:32 | 21.15 | 0.534 | 18.7 | 10.806 | 5.56 | 70.2 | -131 | 3.4 | 0.3 |
| 4/12/2012 | 21:00:32 | 21.15 | 0.533 | 18.7 | 10.806 | 5.56 | 70.2 | -134 | 3.3 | 0.3 |
| 4/12/2012 | 21:05:32 | 21.15 | 0.533 | 18.7 | 10.805 | 5.56 | 70.1 | -136 | 3.3 | 0.3 |
| 4/12/2012 | 21:10:32 | 21.16 | 0.533 | 18.7 | 10.805 | 5.56 | 70.2 | -124 | 3.3 | 0.3 |
| 4/12/2012 | 21:15:32 | 21.17 | 0.533 | 18.7 | 10.802 | 5.56 | 70.2 | -131 | 3.3 | 0.3 |
| 4/12/2012 | 21:20:32 | 21.17 | 0.533 | 18.7 | 10.803 | 5.57 | 70 | -138 | 3.3 | 0.3 |
| 4/12/2012 | 21:25:32 | 21.17 | 0.533 | 18.7 | 10.801 | 5.56 | 70.1 | -134 | 3.3 | 0.3 |
| 4/12/2012 | 21:30:32 | 21.15 | 0.533 | 18.7 | 10.803 | 5.56 | 70.1 | -139 | 3.3 | 0.3 |
| 4/12/2012 | 21:35:32 | 21.15 | 0.533 | 18.7 | 10.803 | 5.56 | 70.2 | -151 | 3.3 | 0.3 |
| 4/12/2012 | 21:40:32 | 21.13 | 0.534 | 18.7 | 10.804 | 5.56 | 70.2 | -150 | 3.3 | 0.3 |
| 4/12/2012 | 21:45:32 | 21.14 | 0.534 | 18.7 | 10.805 | 5.56 | 70.1 | -143 | 3.3 | 0.3 |
| 4/12/2012 | 21:50:32 | 21.15 | 0.534 | 18.7 | 10.806 | 5.56 | 70.1 | -138 | 3.3 | 0.3 |
| 4/12/2012 | 21:55:32 | 21.15 | 0.534 | 18.7 | 10.805 | 5.56 | 70.1 | -149 | 3.3 | 0.3 |
| 4/12/2012 | 22:00:32 | 21.14 | 0.534 | 18.7 | 10.788 | 5.56 | 70.2 | -138 | 3.3 | 0.3 |
| 4/12/2012 | 22:05:32 | 21.14 | 0.535 | 18.69 | 10.782 | 5.56 | 70.1 | -140 | 3.3 | 0.3 |
| 4/12/2012 | 22:10:32 | 21.12 | 0.535 | 18.69 | 10.783 | 5.56 | 70.1 | -138 | 3.3 | 0.3 |
| 4/12/2012 | 22:15:32 | 21.14 | 0.534 | 18.69 | 10.784 | 5.57 | 69.9 | -137 | 3.3 | 0.3 |
| 4/12/2012 | 22:20:32 | 21.14 | 0.535 | 18.7 | 10.786 | 5.56 | 70.1 | -136 | 3.3 | 0.3 |
| 4/12/2012 | 22:25:32 | 21.14 | 0.534 | 18.7 | 10.789 | 5.56 | 70.1 | -141 | 3.3 | 0.3 |
| 4/12/2012 | 22:30:32 | 21.15 | 0.535 | 18.7 | 10.791 | 5.56 | 70.1 | -135 | 3.3 | 0.3 |
| 4/12/2012 | 22:35:32 | 21.14 | 0.535 | 18.7 | 10.792 | 5.56 | 70.1 | -132 | 3.3 | 0.3 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/12/2012 | 22:40:32 | 21.13 | 0.535 | 18.7 | 10.793 | 5.57 | 69.9 | -135 | 3.3 | 0.3 |
| 4/12/2012 | 22:45:32 | 21.12 | 0.535 | 18.7 | 10.796 | 5.56 | 70.1 | -144 | 3.3 | 0.3 |
| 4/12/2012 | 22:50:32 | 21.12 | 0.535 | 18.7 | 10.796 | 5.57 | 70 | -141 | 3.3 | 0.3 |
| 4/12/2012 | 22:55:32 | 21.12 | 0.535 | 18.7 | 10.799 | 5.56 | 70.1 | -139 | 3.3 | 0.3 |
| 4/12/2012 | 23:00:32 | 21.12 | 0.534 | 18.7 | 10.801 | 5.56 | 70.2 | -139 | 3.3 | 0.3 |
| 4/12/2012 | 23:05:32 | 21.12 | 0.535 | 18.7 | 10.799 | 5.56 | 70.2 | -132 | 3.3 | 0.3 |
| 4/12/2012 | 23:10:32 | 21.09 | 0.533 | 18.7 | 10.802 | 5.56 | 70.1 | -181 | 3.3 | 0.29 |
| 4/12/2012 | 23:15:32 | 21.12 | 0.533 | 18.7 | 10.803 | 5.56 | 70.2 | -170 | 3.3 | 0.3 |
| 4/12/2012 | 23:20:32 | 21.15 | 0.534 | 18.7 | 10.801 | 5.56 | 70.3 | -159 | 3.3 | 0.3 |
| 4/12/2012 | 23:25:32 | 21.16 | 0.534 | 18.7 | 10.802 | 5.56 | 70.3 | -155 | 3.3 | 0.3 |
| 4/12/2012 | 23:30:32 | 21.16 | 0.534 | 18.7 | 10.803 | 5.56 | 70.3 | -153 | 3.3 | 0.3 |
| 4/12/2012 | 23:35:32 | 21.15 | 0.534 | 18.7 | 10.804 | 5.56 | 70.3 | -146 | 3.3 | 0.3 |
| 4/12/2012 | 23:40:32 | 21.16 | 0.534 | 18.71 | 10.827 | 5.56 | 70.3 | -144 | 3.3 | 0.3 |
| 4/12/2012 | 23:45:32 | 21.15 | 0.534 | 18.72 | 10.834 | 5.56 | 70.3 | -147 | 3.3 | 0.3 |
| 4/12/2012 | 23:50:32 | 21.14 | 0.534 | 18.72 | 10.836 | 5.56 | 70.3 | -141 | 3.3 | 0.29 |
| 4/12/2012 | 23:55:32 | 21.14 | 0.534 | 18.72 | 10.837 | 5.56 | 70.3 | -135 | 3.3 | 0.3 |
| 4/13/2012 | 0:00:32 | 21.15 | 0.534 | 18.72 | 10.836 | 5.56 | 70.3 | -135 | 3.3 | 0.3 |
| 4/13/2012 | 0:05:32 | 21.15 | 0.534 | 18.72 | 10.836 | 5.56 | 70.3 | -134 | 3.3 | 0.3 |
| 4/13/2012 | 0:10:32 | 21.14 | 0.534 | 18.72 | 10.833 | 5.56 | 70.3 | -136 | 3.3 | 0.3 |
| 4/13/2012 | 0:15:32 | 21.14 | 0.535 | 18.72 | 10.832 | 5.56 | 70.3 | -133 | 3.3 | 0.3 |
| 4/13/2012 | 0:20:32 | 21.15 | 0.535 | 18.71 | 10.83 | 5.56 | 70.2 | -133 | 3.3 | 0.29 |
| 4/13/2012 | 0:25:32 | 21.15 | 0.535 | 18.71 | 10.828 | 5.56 | 70.2 | -131 | 3.3 | 0.29 |
| 4/13/2012 | 0:30:32 | 21.16 | 0.534 | 18.72 | 10.835 | 5.56 | 70.3 | -132 | 3.3 | 0.3 |
| 4/13/2012 | 0:35:32 | 21.1 | 0.533 | 18.71 | 10.819 | 5.56 | 70.1 | -137 | 3.3 | 0.3 |
| 4/13/2012 | 0:40:32 | 21.15 | 0.533 | 18.71 | 10.818 | 5.56 | 70.3 | -136 | 3.3 | 0.3 |
| 4/13/2012 | 0:45:32 | 21.18 | 0.533 | 18.71 | 10.816 | 5.56 | 70.2 | -136 | 3.3 | 0.3 |
| 4/13/2012 | 0:50:32 | 21.17 | 0.533 | 18.71 | 10.817 | 5.56 | 70.3 | -136 | 3.3 | 0.29 |
| 4/13/2012 | 0:55:32 | 21.16 | 0.533 | 18.71 | 10.817 | 5.56 | 70.3 | -135 | 3.3 | 0.3 |
| 4/13/2012 | 1:00:32 | 21.14 | 0.533 | 18.71 | 10.818 | 5.56 | 70.3 | -135 | 3.3 | 0.3 |
| 4/13/2012 | 1:05:32 | 21.15 | 0.533 | 18.71 | 10.822 | 5.56 | 70.2 | -134 | 3.3 | 0.3 |
| 4/13/2012 | 1:10:32 | 21.17 | 0.534 | 18.71 | 10.821 | 5.56 | 70.2 | -133 | 3.3 | 0.3 |
| 4/13/2012 | 1:15:32 | 21.17 | 0.533 | 18.71 | 10.821 | 5.56 | 70.2 | -132 | 3.3 | 0.29 |
| 4/13/2012 | 1:20:32 | 21.17 | 0.534 | 18.71 | 10.82 | 5.56 | 70.2 | -134 | 3.3 | 0.29 |
| 4/13/2012 | 1:25:32 | 21.17 | 0.534 | 18.71 | 10.823 | 5.56 | 70.2 | -133 | 3.3 | 0.3 |
| 4/13/2012 | 1:30:32 | 21.18 | 0.534 | 18.71 | 10.821 | 5.56 | 70.2 | -134 | 3.3 | 0.3 |
| 4/13/2012 | 1:35:32 | 21.18 | 0.534 | 18.71 | 10.825 | 5.56 | 70.2 | -133 | 3.3 | 0.3 |
| 4/13/2012 | 1:40:32 | 21.19 | 0.534 | 18.71 | 10.823 | 5.56 | 70.2 | -134 | 3.3 | 0.29 |
| 4/13/2012 | 1:45:32 | 21.19 | 0.533 | 18.71 | 10.823 | 5.56 | 70.2 | -134 | 3.3 | 0.3 |
| 4/13/2012 | 1:50:32 | 21.18 | 0.533 | 18.71 | 10.819 | 5.56 | 70.3 | -134 | 3.3 | 0.3 |
| 4/13/2012 | 1:55:32 | 21.13 | 0.534 | 18.71 | 10.824 | 5.56 | 70.1 | -143 | 3.3 | 0.3 |
| 4/13/2012 | 2:00:32 | 21.17 | 0.533 | 18.71 | 10.824 | 5.56 | 70.2 | -139 | 3.3 | 0.29 |
| 4/13/2012 | 2:05:32 | 21.19 | 0.533 | 18.71 | 10.824 | 5.56 | 70.2 | -137 | 3.3 | 0.29 |
| 4/13/2012 | 2:10:32 | 21.19 | 0.533 | 18.71 | 10.825 | 5.56 | 70.2 | -140 | 3.3 | 0.3 |
| 4/13/2012 | 2:15:32 | 21.16 | 0.534 | 18.71 | 10.826 | 5.56 | 70.2 | -138 | 3.3 | 0.3 |
| 4/13/2012 | 2:20:32 | 21.15 | 0.534 | 18.71 | 10.824 | 5.56 | 70.2 | -138 | 3.3 | 0.3 |
| 4/13/2012 | 2:25:32 | 21.18 | 0.533 | 18.71 | 10.823 | 5.56 | 70.2 | -134 | 3.3 | 0.29 |
| 4/13/2012 | 2:30:32 | 21.19 | 0.533 | 18.71 | 10.824 | 5.56 | 70.2 | -139 | 3.3 | 0.29 |
| 4/13/2012 | 2:35:32 | 21.19 | 0.533 | 18.71 | 10.822 | 5.56 | 70.1 | -141 | 3.3 | 0.29 |
| 4/13/2012 | 2:40:32 | 21.19 | 0.533 | 18.71 | 10.823 | 5.56 | 70.1 | -141 | 3.3 | 0.29 |
| 4/13/2012 | 2:45:32 | 21.2 | 0.533 | 18.71 | 10.823 | 5.56 | 70.1 | -141 | 3.3 | 0.29 |
| 4/13/2012 | 2:50:32 | 21.2 | 0.533 | 18.71 | 10.819 | 5.56 | 70.1 | -144 | 3.3 | 0.29 |
| 4/13/2012 | 2:55:32 | 21.21 | 0.533 | 18.71 | 10.823 | 5.56 | 70.1 | -143 | 3.3 | 0.29 |
| 4/13/2012 | 3:00:32 | 21.2 | 0.533 | 18.71 | 10.828 | 5.56 | 70.1 | -140 | 3.3 | 0.29 |
| 4/13/2012 | 3:05:32 | 21.19 | 0.533 | 18.71 | 10.831 | 5.56 | 70.2 | -143 | 3.3 | 0.29 |
| 4/13/2012 | 3:10:32 | 21.18 | 0.533 | 18.72 | 10.833 | 5.56 | 70.2 | -140 | 3.3 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 3:15:32 | 21.18 | 0.533 | 18.72 | 10.836 | 5.56 | 70.2 | -139 | 3.3 | 0.29 |
| 4/13/2012 | 3:20:32 | 21.17 | 0.533 | 18.72 | 10.836 | 5.56 | 70.2 | -136 | 3.3 | 0.29 |
| 4/13/2012 | 3:25:32 | 21.17 | 0.533 | 18.72 | 10.836 | 5.56 | 70.2 | -132 | 3.3 | 0.3 |
| 4/13/2012 | 3:30:32 | 21.17 | 0.533 | 18.72 | 10.833 | 5.56 | 70.1 | -132 | 3.3 | 0.29 |
| 4/13/2012 | 3:35:32 | 21.17 | 0.533 | 18.72 | 10.834 | 5.56 | 70.2 | -133 | 3.3 | 0.3 |
| 4/13/2012 | 3:40:32 | 21.17 | 0.533 | 18.72 | 10.836 | 5.56 | 70.2 | -133 | 3.3 | 0.3 |
| 4/13/2012 | 3:45:32 | 21.17 | 0.533 | 18.72 | 10.836 | 5.56 | 70.2 | -134 | 3.3 | 0.3 |
| 4/13/2012 | 3:50:32 | 21.17 | 0.533 | 18.72 | 10.836 | 5.56 | 70.1 | -134 | 3.3 | 0.3 |
| 4/13/2012 | 3:55:32 | 21.17 | 0.533 | 18.72 | 10.835 | 5.56 | 70.2 | -134 | 3.3 | 0.3 |
| 4/13/2012 | 4:00:32 | 21.11 | 0.533 | 18.72 | 10.834 | 5.56 | 70.1 | -159 | 3.3 | 0.3 |
| 4/13/2012 | 4:05:32 | 21.15 | 0.533 | 18.72 | 10.834 | 5.56 | 70.1 | -144 | 3.3 | 0.3 |
| 4/13/2012 | 4:10:32 | 21.17 | 0.534 | 18.72 | 10.835 | 5.56 | 70.1 | -143 | 3.3 | 0.3 |
| 4/13/2012 | 4:15:32 | 21.17 | 0.533 | 18.72 | 10.837 | 5.56 | 70.1 | -143 | 3.3 | 0.3 |
| 4/13/2012 | 4:20:32 | 21.19 | 0.533 | 18.72 | 10.838 | 5.56 | 70.1 | -142 | 3.3 | 0.29 |
| 4/13/2012 | 4:25:32 | 21.19 | 0.533 | 18.72 | 10.838 | 5.56 | 70.1 | -145 | 3.3 | 0.29 |
| 4/13/2012 | 4:30:32 | 21.18 | 0.533 | 18.72 | 10.837 | 5.56 | 70.1 | -145 | 3.3 | 0.29 |
| 4/13/2012 | 4:35:32 | 21.18 | 0.533 | 18.72 | 10.837 | 5.56 | 70.1 | -142 | 3.3 | 0.29 |
| 4/13/2012 | 4:40:32 | 21.18 | 0.533 | 18.72 | 10.838 | 5.56 | 70.1 | -141 | 3.3 | 0.3 |
| 4/13/2012 | 4:45:32 | 21.17 | 0.533 | 18.72 | 10.838 | 5.56 | 70.1 | -138 | 3.3 | 0.3 |
| 4/13/2012 | 4:50:32 | 21.17 | 0.533 | 18.72 | 10.836 | 5.57 | 70 | -139 | 3.3 | 0.29 |
| 4/13/2012 | 4:55:32 | 21.17 | 0.533 | 18.72 | 10.837 | 5.57 | 70 | -136 | 3.3 | 0.29 |
| 4/13/2012 | 5:00:32 | 21.18 | 0.533 | 18.72 | 10.838 | 5.57 | 70 | -134 | 3.3 | 0.29 |
| 4/13/2012 | 5:05:32 | 21.18 | 0.533 | 18.72 | 10.838 | 5.57 | 70 | -140 | 3.3 | 0.3 |
| 4/13/2012 | 5:10:32 | 21.18 | 0.533 | 18.72 | 10.838 | 5.56 | 70.1 | -141 | 3.3 | 0.29 |
| 4/13/2012 | 5:15:32 | 21.18 | 0.533 | 18.72 | 10.842 | 5.56 | 70.1 | -142 | 3.3 | 0.29 |
| 4/13/2012 | 5:20:32 | 21.18 | 0.533 | 18.72 | 10.842 | 5.56 | 70.1 | -143 | 3.3 | 0.29 |
| 4/13/2012 | 5:25:32 | 21.18 | 0.533 | 18.72 | 10.841 | 5.56 | 70.2 | -141 | 3.3 | 0.3 |
| 4/13/2012 | 5:30:32 | 21.18 | 0.533 | 18.72 | 10.842 | 5.56 | 70.1 | -140 | 3.3 | 0.29 |
| 4/13/2012 | 5:35:32 | 21.18 | 0.533 | 18.72 | 10.841 | 5.57 | 70 | -142 | 3.3 | 0.29 |
| 4/13/2012 | 5:40:32 | 21.17 | 0.533 | 18.72 | 10.842 | 5.57 | 70 | -141 | 3.3 | 0.29 |
| 4/13/2012 | 5:45:32 | 21.17 | 0.533 | 18.72 | 10.84 | 5.57 | 70 | -140 | 3.3 | 0.3 |
| 4/13/2012 | 5:50:32 | 21.17 | 0.533 | 18.72 | 10.841 | 5.57 | 70 | -139 | 3.3 | 0.3 |
| 4/13/2012 | 5:55:32 | 21.17 | 0.533 | 18.72 | 10.842 | 5.57 | 70.1 | -138 | 3.3 | 0.3 |
| 4/13/2012 | 6:00:32 | 21.17 | 0.533 | 18.72 | 10.843 | 5.56 | 70.1 | -139 | 3.3 | 0.3 |
| 4/13/2012 | 6:05:32 | 21.17 | 0.533 | 18.72 | 10.843 | 5.56 | 70.1 | -136 | 3.3 | 0.3 |
| 4/13/2012 | 6:10:32 | 21.17 | 0.533 | 18.72 | 10.844 | 5.56 | 70.1 | -139 | 3.3 | 0.3 |
| 4/13/2012 | 6:15:32 | 21.17 | 0.533 | 18.72 | 10.842 | 5.56 | 70.1 | -139 | 3.3 | 0.3 |
| 4/13/2012 | 6:20:32 | 21.17 | 0.533 | 18.72 | 10.844 | 5.57 | 70.1 | -139 | 3.3 | 0.3 |
| 4/13/2012 | 6:25:32 | 21.17 | 0.533 | 18.72 | 10.846 | 5.57 | 70.1 | -139 | 3.3 | 0.3 |
| 4/13/2012 | 6:30:32 | 21.17 | 0.533 | 18.72 | 10.848 | 5.57 | 70 | -139 | 3.3 | 0.3 |
| 4/13/2012 | 6:35:32 | 21.18 | 0.533 | 18.72 | 10.848 | 5.57 | 70 | -140 | 3.3 | 0.29 |
| 4/13/2012 | 6:40:32 | 21.18 | 0.533 | 18.72 | 10.848 | 5.57 | 70.1 | -144 | 3.3 | 0.29 |
| 4/13/2012 | 6:45:32 | 21.18 | 0.533 | 18.72 | 10.845 | 5.56 | 70.1 | -143 | 3.3 | 0.29 |
| 4/13/2012 | 6:50:32 | 21.17 | 0.533 | 18.72 | 10.841 | 5.57 | 70.1 | -142 | 3.3 | 0.29 |
| 4/13/2012 | 6:55:32 | 21.17 | 0.533 | 18.72 | 10.836 | 5.57 | 70.1 | -142 | 3.3 | 0.29 |
| 4/13/2012 | 7:00:32 | 21.17 | 0.533 | 18.72 | 10.834 | 5.57 | 70 | -143 | 3.3 | 0.29 |
| 4/13/2012 | 7:05:32 | 21.13 | 0.532 | 18.72 | 10.836 | 5.57 | 70 | -170 | 3.3 | 0.3 |
| 4/13/2012 | 7:10:32 | 21.14 | 0.533 | 18.72 | 10.84 | 5.57 | 70 | -159 | 3.3 | 0.3 |
| 4/13/2012 | 7:15:32 | 21.16 | 0.532 | 18.72 | 10.84 | 5.57 | 70.1 | -161 | 3.3 | 0.29 |
| 4/13/2012 | 7:20:32 | 21.14 | 0.533 | 18.72 | 10.842 | 5.56 | 70.1 | -171 | 3.3 | 0.3 |
| 4/13/2012 | 7:25:32 | 21.17 | 0.533 | 18.72 | 10.844 | 5.57 | 70.1 | -151 | 3.3 | 0.29 |
| 4/13/2012 | 7:30:32 | 21.13 | 0.533 | 18.72 | 10.846 | 5.57 | 70 | -159 | 3.3 | 0.29 |
| 4/13/2012 | 7:35:32 | 21.16 | 0.533 | 18.72 | 10.849 | 5.56 | 70.1 | -165 | 3.3 | 0.3 |
| 4/13/2012 | 7:40:32 | 21.18 | 0.533 | 18.72 | 10.849 | 5.56 | 70.1 | -156 | 3.3 | 0.29 |
| 4/13/2012 | 7:45:32 | 21.19 | 0.533 | 18.72 | 10.85 | 5.56 | 70.1 | -163 | 3.3 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 7:50:32 | 21.19 | 0.533 | 18.72 | 10.849 | 5.56 | 70.1 | -170 | 3.3 | 0.29 |
| 4/13/2012 | 7:55:32 | 21.19 | 0.533 | 18.72 | 10.851 | 5.56 | 70.1 | -167 | 3.3 | 0.29 |
| 4/13/2012 | 8:00:32 | 21.19 | 0.533 | 18.72 | 10.851 | 5.56 | 70.1 | -168 | 3.3 | 0.29 |
| 4/13/2012 | 8:05:32 | 21.19 | 0.533 | 18.72 | 10.851 | 5.56 | 70.1 | -170 | 3.3 | 0.29 |
| 4/13/2012 | 8:10:32 | 21.2 | 0.533 | 18.72 | 10.851 | 5.56 | 70.1 | -169 | 3.3 | 0.29 |
| 4/13/2012 | 8:15:32 | 21.2 | 0.533 | 18.72 | 10.852 | 5.56 | 70.1 | -168 | 3.3 | 0.29 |
| 4/13/2012 | 8:20:32 | 21.2 | 0.533 | 18.72 | 10.851 | 5.56 | 70.1 | -170 | 3.3 | 0.29 |
| 4/13/2012 | 8:25:32 | 21.2 | 0.533 | 18.73 | 10.855 | 5.56 | 70.1 | -172 | 3.3 | 0.29 |
| 4/13/2012 | 8:30:32 | 21.14 | 0.533 | 18.72 | 10.852 | 5.56 | 70.1 | -193 | 3.3 | 0.29 |
| 4/13/2012 | 8:35:32 | 21.15 | 0.533 | 18.73 | 10.854 | 5.56 | 70.1 | -170 | 3.3 | 0.29 |
| 4/13/2012 | 8:40:32 | 21.17 | 0.533 | 18.73 | 10.855 | 5.56 | 70.1 | -166 | 3.3 | 0.29 |
| 4/13/2012 | 8:45:32 | 21.19 | 0.533 | 18.73 | 10.854 | 5.56 | 70.1 | -165 | 3.3 | 0.29 |
| 4/13/2012 | 8:50:32 | 21.18 | 0.533 | 18.72 | 10.854 | 5.56 | 70.1 | -169 | 3.3 | 0.29 |
| 4/13/2012 | 8:55:32 | 21.16 | 0.533 | 18.72 | 10.853 | 5.56 | 70.1 | -172 | 3.3 | 0.29 |
| 4/13/2012 | 9:00:32 | 21.16 | 0.534 | 18.72 | 10.851 | 5.56 | 70.1 | -169 | 3.3 | 0.29 |
| 4/13/2012 | 9:05:32 | 21.18 | 0.533 | 18.72 | 10.846 | 5.56 | 70.1 | -166 | 3.3 | 0.29 |
| 4/13/2012 | 9:10:32 | 21.12 | 0.533 | 18.72 | 10.841 | 5.56 | 70.1 | -174 | 3.3 | 0.3 |
| 4/13/2012 | 9:15:32 | 21.17 | 0.533 | 18.72 | 10.836 | 5.56 | 70.1 | -162 | 3.3 | 0.29 |
| 4/13/2012 | 9:20:32 | 21.19 | 0.533 | 18.72 | 10.837 | 5.56 | 70.1 | -164 | 3.3 | 0.29 |
| 4/13/2012 | 9:25:32 | 21.19 | 0.533 | 18.72 | 10.839 | 5.56 | 70.1 | -171 | 3.3 | 0.29 |
| 4/13/2012 | 9:30:32 | 21.2 | 0.532 | 18.72 | 10.842 | 5.56 | 70.1 | -172 | 3.3 | 0.29 |
| 4/13/2012 | 9:35:32 | 21.2 | 0.532 | 18.72 | 10.838 | 5.56 | 70.1 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 9:40:32 | 21.2 | 0.532 | 18.72 | 10.838 | 5.56 | 70.1 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 9:45:32 | 21.2 | 0.533 | 18.72 | 10.839 | 5.56 | 70.1 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 9:50:32 | 21.2 | 0.533 | 18.72 | 10.835 | 5.56 | 70.1 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 9:55:32 | 21.2 | 0.533 | 18.71 | 10.827 | 5.56 | 70.1 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 10:00:32 | 21.19 | 0.533 | 18.71 | 10.821 | 5.56 | 70.1 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 10:05:32 | 21.19 | 0.533 | 18.71 | 10.814 | 5.56 | 70.1 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 10:10:32 | 21.19 | 0.533 | 18.71 | 10.816 | 5.57 | 70.1 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 10:15:32 | 21.19 | 0.533 | 18.71 | 10.816 | 5.56 | 70.1 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 10:20:32 | 21.18 | 0.533 | 18.71 | 10.821 | 5.56 | 70.1 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 10:25:32 | 21.17 | 0.533 | 18.71 | 10.82 | 5.56 | 70.1 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 10:30:32 | 21.13 | 0.533 | 18.71 | 10.82 | 5.56 | 70.1 | -189 | 3.3 | 0.3 |
| 4/13/2012 | 10:35:32 | 21.15 | 0.533 | 18.71 | 10.821 | 5.56 | 70.1 | -170 | 3.3 | 0.29 |
| 4/13/2012 | 10:40:32 | 21.17 | 0.533 | 18.71 | 10.824 | 5.56 | 70.1 | -161 | 3.3 | 0.29 |
| 4/13/2012 | 10:45:32 | 21.19 | 0.532 | 18.71 | 10.825 | 5.56 | 70.1 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 10:50:32 | 21.19 | 0.533 | 18.71 | 10.825 | 5.56 | 70.1 | -172 | 3.3 | 0.29 |
| 4/13/2012 | 10:55:32 | 21.17 | 0.533 | 18.71 | 10.826 | 5.56 | 70.2 | -171 | 3.3 | 0.29 |
| 4/13/2012 | 11:00:32 | 21.16 | 0.533 | 18.71 | 10.824 | 5.56 | 70.2 | -171 | 3.3 | 0.29 |
| 4/13/2012 | 11:05:32 | 21.17 | 0.533 | 18.71 | 10.824 | 5.56 | 70.2 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 11:10:32 | 21.18 | 0.533 | 18.71 | 10.822 | 5.56 | 70.1 | -167 | 3.3 | 0.29 |
| 4/13/2012 | 11:15:32 | 21.19 | 0.533 | 18.71 | 10.821 | 5.56 | 70.1 | -175 | 3.3 | 0.29 |
| 4/13/2012 | 11:20:32 | 21.18 | 0.533 | 18.71 | 10.822 | 5.56 | 70.1 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 11:25:32 | 21.18 | 0.533 | 18.71 | 10.821 | 5.56 | 70.1 | -175 | 3.3 | 0.29 |
| 4/13/2012 | 11:30:32 | 21.18 | 0.533 | 18.71 | 10.822 | 5.56 | 70.1 | -177 | 3.3 | 0.29 |
| 4/13/2012 | 11:35:32 | 21.18 | 0.533 | 18.71 | 10.822 | 5.56 | 70.1 | -175 | 3.3 | 0.29 |
| 4/13/2012 | 11:40:32 | 21.15 | 0.533 | 18.71 | 10.824 | 5.56 | 70.1 | -201 | 3.3 | 0.29 |
| 4/13/2012 | 11:45:32 | 21.16 | 0.533 | 18.71 | 10.825 | 5.56 | 70.1 | -178 | 3.3 | 0.29 |
| 4/13/2012 | 11:50:32 | 21.12 | 0.532 | 18.71 | 10.825 | 5.56 | 70.1 | -186 | 3.3 | 0.29 |
| 4/13/2012 | 11:55:32 | 21.15 | 0.533 | 18.71 | 10.816 | 5.56 | 70.1 | -168 | 3.3 | 0.29 |
| 4/13/2012 | 12:00:32 | 21.17 | 0.533 | 18.71 | 10.808 | 5.56 | 70.1 | -170 | 3.3 | 0.29 |
| 4/13/2012 | 12:05:32 | 21.17 | 0.533 | 18.7 | 10.803 | 5.56 | 70.1 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 12:10:32 | 21.17 | 0.533 | 18.7 | 10.799 | 5.56 | 70.2 | -176 | 3.3 | 0.29 |
| 4/13/2012 | 12:15:32 | 21.18 | 0.533 | 18.7 | 10.796 | 5.56 | 70.1 | -175 | 3.3 | 0.29 |
| 4/13/2012 | 12:20:32 | 21.19 | 0.533 | 18.7 | 10.793 | 5.56 | 70.1 | -175 | 3.3 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 12:25:32 | 21.19 | 0.533 | 18.7 | 10.8 | 5.56 | 70.1 | -177 | 3.3 | 0.29 |
| 4/13/2012 | 12:30:32 | 21.15 | 0.532 | 18.7 | 10.8 | 5.56 | 70.1 | -190 | 3.3 | 0.29 |
| 4/13/2012 | 12:35:32 | 21.14 | 0.533 | 18.7 | 10.799 | 5.56 | 70.1 | -184 | 3.3 | 0.29 |
| 4/13/2012 | 12:40:32 | 21.17 | 0.532 | 18.7 | 10.798 | 5.56 | 70.1 | -158 | 3.3 | 0.29 |
| 4/13/2012 | 12:45:32 | 21.18 | 0.532 | 18.7 | 10.798 | 5.56 | 70.1 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 12:50:32 | 21.12 | 0.532 | 18.7 | 10.792 | 5.56 | 70.1 | -198 | 3.3 | 0.29 |
| 4/13/2012 | 12:55:32 | 21.13 | 0.533 | 18.7 | 10.79 | 5.56 | 70.1 | -201 | 3.3 | 0.29 |
| 4/13/2012 | 13:00:32 | 21.14 | 0.532 | 18.7 | 10.786 | 5.56 | 70.1 | -186 | 3.3 | 0.29 |
| 4/13/2012 | 13:05:32 | 21.12 | 0.532 | 18.7 | 10.785 | 5.56 | 70.1 | -203 | 3.3 | 0.29 |
| 4/13/2012 | 13:10:32 | 21.13 | 0.532 | 18.69 | 10.784 | 5.56 | 70.1 | -200 | 3.3 | 0.29 |
| 4/13/2012 | 13:15:32 | 21.13 | 0.533 | 18.69 | 10.778 | 5.56 | 70.1 | -200 | 3.3 | 0.29 |
| 4/13/2012 | 13:20:32 | 21.16 | 0.533 | 18.69 | 10.781 | 5.56 | 70.1 | -205 | 3.3 | 0.29 |
| 4/13/2012 | 13:25:32 | 21.16 | 0.533 | 18.69 | 10.784 | 5.56 | 70.1 | -184 | 3.3 | 0.29 |
| 4/13/2012 | 13:30:32 | 21.16 | 0.533 | 18.7 | 10.786 | 5.56 | 70.1 | -187 | 3.3 | 0.29 |
| 4/13/2012 | 13:35:32 | 21.13 | 0.533 | 18.7 | 10.785 | 5.56 | 70.1 | -192 | 3.3 | 0.29 |
| 4/13/2012 | 13:40:32 | 21.1 | 0.533 | 18.69 | 10.78 | 5.56 | 70.1 | -184 | 3.3 | 0.29 |
| 4/13/2012 | 13:45:32 | 21.14 | 0.532 | 18.69 | 10.777 | 5.56 | 70.1 | -191 | 3.3 | 0.29 |
| 4/13/2012 | 13:50:32 | 21.14 | 0.532 | 18.69 | 10.775 | 5.56 | 70.1 | -185 | 3.3 | 0.29 |
| 4/13/2012 | 13:55:32 | 21.13 | 0.533 | 18.69 | 10.774 | 5.56 | 70.1 | -191 | 3.3 | 0.29 |
| 4/13/2012 | 14:00:32 | 21.13 | 0.532 | 18.69 | 10.769 | 5.56 | 70.1 | -189 | 3.3 | 0.29 |
| 4/13/2012 | 14:05:32 | 21.17 | 0.532 | 18.69 | 10.763 | 5.56 | 70.1 | -182 | 3.3 | 0.29 |
| 4/13/2012 | 14:10:32 | 21.17 | 0.532 | 18.68 | 10.761 | 5.56 | 70.1 | -184 | 3.3 | 0.29 |
| 4/13/2012 | 14:15:32 | 21.15 | 0.532 | 18.68 | 10.759 | 5.56 | 70.2 | -181 | 3.3 | 0.29 |
| 4/13/2012 | 14:20:32 | 21.16 | 0.532 | 18.68 | 10.756 | 5.56 | 70.1 | -192 | 3.3 | 0.29 |
| 4/13/2012 | 14:25:32 | 21.13 | 0.533 | 18.68 | 10.756 | 5.57 | 70 | -189 | 3.3 | 0.29 |
| 4/13/2012 | 14:30:32 | 21.14 | 0.533 | 18.68 | 10.755 | 5.56 | 70.1 | -176 | 3.3 | 0.29 |
| 4/13/2012 | 14:35:32 | 21.15 | 0.533 | 18.68 | 10.756 | 5.56 | 70.1 | -172 | 3.3 | 0.29 |
| 4/13/2012 | 14:40:32 | 21.17 | 0.533 | 18.68 | 10.757 | 5.56 | 70.1 | -170 | 3.3 | 0.29 |
| 4/13/2012 | 14:45:32 | 21.17 | 0.533 | 18.68 | 10.755 | 5.56 | 70.1 | -170 | 3.3 | 0.29 |
| 4/13/2012 | 14:50:32 | 21.17 | 0.533 | 18.68 | 10.755 | 5.56 | 70.1 | -171 | 3.3 | 0.29 |
| 4/13/2012 | 14:55:32 | 21.17 | 0.533 | 18.68 | 10.756 | 5.56 | 70.1 | -172 | 3.3 | 0.29 |
| 4/13/2012 | 15:00:32 | 21.17 | 0.533 | 18.68 | 10.745 | 5.56 | 70.1 | -172 | 3.3 | 0.29 |
| 4/13/2012 | 15:05:32 | 21.18 | 0.534 | 18.68 | 10.743 | 5.56 | 70.2 | -172 | 3.3 | 0.29 |
| 4/13/2012 | 15:10:32 | 21.18 | 0.534 | 18.67 | 10.738 | 5.56 | 70.2 | -172 | 3.3 | 0.29 |
| 4/13/2012 | 15:15:32 | 21.18 | 0.534 | 18.67 | 10.733 | 5.56 | 70.2 | -172 | 3.3 | 0.29 |
| 4/13/2012 | 15:20:32 | 21.18 | 0.534 | 18.67 | 10.722 | 5.56 | 70.2 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 15:25:32 | 21.18 | 0.534 | 18.67 | 10.716 | 5.56 | 70.2 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 15:30:32 | 21.18 | 0.534 | 18.66 | 10.711 | 5.56 | 70.1 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 15:35:32 | 21.18 | 0.534 | 18.67 | 10.717 | 5.57 | 70 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 15:40:32 | 21.17 | 0.534 | 18.67 | 10.725 | 5.57 | 70 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 15:45:32 | 21.17 | 0.534 | 18.67 | 10.73 | 5.57 | 70 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 15:50:32 | 21.17 | 0.534 | 18.67 | 10.732 | 5.57 | 70 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 15:55:32 | 21.17 | 0.534 | 18.68 | 10.743 | 5.57 | 70 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 16:00:32 | 21.17 | 0.534 | 18.68 | 10.749 | 5.57 | 70 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 16:05:32 | 21.17 | 0.534 | 18.68 | 10.751 | 5.57 | 69.9 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 16:10:32 | 21.17 | 0.534 | 18.68 | 10.757 | 5.57 | 70 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 16:15:32 | 21.17 | 0.534 | 18.68 | 10.758 | 5.57 | 70 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 16:20:32 | 21.17 | 0.534 | 18.68 | 10.76 | 5.57 | 70 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 16:25:32 | 21.17 | 0.534 | 18.69 | 10.765 | 5.57 | 70 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 16:30:32 | 21.16 | 0.533 | 18.69 | 10.769 | 5.57 | 70 | -184 | 3.3 | 0.29 |
| 4/13/2012 | 16:35:32 | 21.15 | 0.533 | 18.69 | 10.773 | 5.57 | 70 | -178 | 3.3 | 0.29 |
| 4/13/2012 | 16:40:32 | 21.15 | 0.534 | 18.69 | 10.777 | 5.57 | 70 | -172 | 3.3 | 0.29 |
| 4/13/2012 | 16:45:32 | 21.15 | 0.533 | 18.69 | 10.778 | 5.57 | 70 | -173 | 3.3 | 0.29 |
| 4/13/2012 | 16:50:32 | 21.16 | 0.533 | 18.69 | 10.78 | 5.57 | 70 | -174 | 3.3 | 0.29 |
| 4/13/2012 | 16:55:32 | 21.17 | 0.534 | 18.69 | 10.783 | 5.56 | 70.1 | -174 | 3.3 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 17:00:32 | 21.17 | 0.533 | 18.69 | 10.782 | 5.57 | 70 | -176 | 3.3 | 0.29 |
| 4/13/2012 | 17:05:32 | 21.17 | 0.534 | 18.69 | 10.784 | 5.57 | 70 | -176 | 3.3 | 0.29 |
| 4/13/2012 | 17:10:32 | 21.17 | 0.534 | 18.69 | 10.783 | 5.57 | 70 | -177 | 3.3 | 0.29 |
| 4/13/2012 | 17:15:32 | 21.17 | 0.534 | 18.7 | 10.789 | 5.57 | 70 | -177 | 3.3 | 0.29 |
| 4/13/2012 | 17:20:32 | 21.17 | 0.534 | 18.7 | 10.789 | 5.57 | 70 | -177 | 3.3 | 0.29 |
| 4/13/2012 | 17:25:32 | 21.18 | 0.534 | 18.7 | 10.788 | 5.57 | 69.9 | -178 | 3.3 | 0.29 |
| 4/13/2012 | 17:30:32 | 21.18 | 0.534 | 18.7 | 10.791 | 5.57 | 69.9 | -178 | 3.3 | 0.29 |
| 4/13/2012 | 17:35:32 | 21.18 | 0.534 | 18.7 | 10.793 | 5.57 | 69.9 | -179 | 3.3 | 0.29 |
| 4/13/2012 | 17:40:32 | 21.18 | 0.534 | 18.7 | 10.792 | 5.57 | 69.8 | -179 | 3.3 | 0.29 |
| 4/13/2012 | 17:45:32 | 21.18 | 0.534 | 18.7 | 10.793 | 5.57 | 69.8 | -180 | 3.3 | 0.29 |
| 4/13/2012 | 17:50:32 | 21.17 | 0.534 | 18.7 | 10.795 | 5.57 | 69.8 | -180 | 3.3 | 0.29 |
| 4/13/2012 | 17:55:32 | 21.17 | 0.534 | 18.7 | 10.792 | 5.57 | 69.8 | -180 | 3.3 | 0.29 |
| 4/13/2012 | 18:00:31 | 21.16 | 0.534 | 18.7 | 10.793 | 5.57 | 69.8 | -197 | 3.3 | 0.29 |
| 4/13/2012 | 18:05:32 | 21.14 | 0.534 | 18.7 | 10.795 | 5.57 | 69.9 | -184 | 3.3 | 0.29 |
| 4/13/2012 | 18:10:32 | 21.17 | 0.534 | 18.7 | 10.798 | 5.57 | 69.9 | -182 | 3.3 | 0.29 |
| 4/13/2012 | 18:15:31 | 21.13 | 0.534 | 18.7 | 10.798 | 5.57 | 69.9 | -186 | 3.3 | 0.29 |
| 4/13/2012 | 18:20:32 | 21.16 | 0.534 | 18.7 | 10.796 | 5.57 | 69.9 | -182 | 3.3 | 0.29 |
| 4/13/2012 | 18:25:32 | 21.18 | 0.534 | 18.7 | 10.797 | 5.57 | 69.8 | -184 | 3.3 | 0.29 |
| 4/13/2012 | 18:30:32 | 21.17 | 0.534 | 18.7 | 10.796 | 5.57 | 69.9 | -184 | 3.3 | 0.29 |
| 4/13/2012 | 18:35:31 | 21.16 | 0.534 | 18.7 | 10.796 | 5.57 | 69.9 | -184 | 3.3 | 0.29 |
| 4/13/2012 | 18:40:32 | 21.16 | 0.535 | 18.7 | 10.798 | 5.57 | 69.9 | -185 | 3.3 | 0.29 |
| 4/13/2012 | 18:45:32 | 21.16 | 0.535 | 18.7 | 10.797 | 5.57 | 69.9 | -186 | 3.3 | 0.29 |
| 4/13/2012 | 18:50:32 | 21.17 | 0.534 | 18.7 | 10.796 | 5.57 | 70 | -187 | 3.3 | 0.29 |
| 4/13/2012 | 18:55:32 | 21.17 | 0.534 | 18.7 | 10.794 | 5.57 | 70 | -188 | 3.3 | 0.29 |
| 4/13/2012 | 19:00:32 | 21.17 | 0.534 | 18.7 | 10.795 | 5.57 | 70 | -189 | 3.3 | 0.29 |
| 4/13/2012 | 19:05:32 | 21.18 | 0.534 | 18.7 | 10.796 | 5.57 | 69.9 | -189 | 3.3 | 0.29 |
| 4/13/2012 | 19:10:32 | 21.18 | 0.534 | 18.7 | 10.8 | 5.57 | 69.9 | -190 | 3.3 | 0.29 |
| 4/13/2012 | 19:15:32 | 21.18 | 0.534 | 18.7 | 10.8 | 5.57 | 69.8 | -191 | 3.3 | 0.29 |
| 4/13/2012 | 19:20:32 | 21.18 | 0.534 | 18.7 | 10.802 | 5.57 | 69.8 | -192 | 3.3 | 0.29 |
| 4/13/2012 | 19:25:31 | 21.18 | 0.534 | 18.7 | 10.801 | 5.57 | 69.8 | -193 | 3.3 | 0.29 |
| 4/13/2012 | 19:30:32 | 21.18 | 0.534 | 18.7 | 10.799 | 5.57 | 69.8 | -194 | 3.3 | 0.29 |
| 4/13/2012 | 19:35:32 | 21.18 | 0.534 | 18.7 | 10.803 | 5.57 | 69.8 | -195 | 3.3 | 0.29 |
| 4/13/2012 | 19:40:32 | 21.18 | 0.534 | 18.7 | 10.802 | 5.57 | 69.8 | -196 | 3.3 | 0.29 |
| 4/13/2012 | 19:45:32 | 21.18 | 0.534 | 18.7 | 10.803 | 5.57 | 69.8 | -197 | 3.3 | 0.29 |
| 4/13/2012 | 19:50:32 | 21.18 | 0.535 | 18.7 | 10.804 | 5.57 | 69.8 | -198 | 3.3 | 0.29 |
| 4/13/2012 | 19:55:31 | 21.18 | 0.534 | 18.7 | 10.803 | 5.57 | 69.8 | -199 | 3.3 | 0.29 |
| 4/13/2012 | 20:00:31 | 21.18 | 0.534 | 18.7 | 10.804 | 5.57 | 69.8 | -200 | 3.3 | 0.29 |
| 4/13/2012 | 20:05:32 | 21.18 | 0.535 | 18.7 | 10.804 | 5.57 | 69.8 | -201 | 3.3 | 0.29 |
| 4/13/2012 | 20:10:32 | 21.18 | 0.535 | 18.7 | 10.799 | 5.57 | 69.8 | -201 | 3.3 | 0.29 |
| 4/13/2012 | 20:15:32 | 21.18 | 0.534 | 18.7 | 10.803 | 5.57 | 69.9 | -202 | 3.3 | 0.29 |
| 4/13/2012 | 20:20:32 | 21.18 | 0.534 | 18.7 | 10.805 | 5.57 | 69.9 | -203 | 3.3 | 0.29 |
| 4/13/2012 | 20:25:32 | 21.18 | 0.535 | 18.7 | 10.807 | 5.57 | 69.8 | -205 | 3.3 | 0.29 |
| 4/13/2012 | 20:30:32 | 21.18 | 0.535 | 18.71 | 10.808 | 5.57 | 69.8 | -206 | 3.3 | 0.29 |
| 4/13/2012 | 20:35:32 | 21.18 | 0.535 | 18.7 | 10.807 | 5.57 | 69.8 | -206 | 3.3 | 0.29 |
| 4/13/2012 | 20:40:32 | 21.18 | 0.535 | 18.71 | 10.807 | 5.57 | 69.8 | -207 | 3.3 | 0.29 |
| 4/13/2012 | 20:45:31 | 21.18 | 0.535 | 18.7 | 10.807 | 5.57 | 69.8 | -208 | 3.3 | 0.29 |
| 4/13/2012 | 20:50:32 | 21.18 | 0.534 | 18.71 | 10.808 | 5.57 | 69.8 | -209 | 3.3 | 0.29 |
| 4/13/2012 | 20:55:32 | 21.18 | 0.535 | 18.71 | 10.809 | 5.57 | 69.8 | -210 | 3.3 | 0.29 |
| 4/13/2012 | 21:00:32 | 21.18 | 0.535 | 18.71 | 10.808 | 5.57 | 69.9 | -211 | 3.3 | 0.29 |
| 4/13/2012 | 21:05:31 | 21.18 | 0.535 | 18.71 | 10.811 | 5.57 | 69.8 | -212 | 3.3 | 0.29 |
| 4/13/2012 | 21:10:32 | 21.18 | 0.535 | 18.71 | 10.811 | 5.57 | 69.8 | -213 | 3.3 | 0.29 |
| 4/13/2012 | 21:15:32 | 21.18 | 0.535 | 18.71 | 10.809 | 5.57 | 69.8 | -214 | 3.3 | 0.29 |
| 4/13/2012 | 21:20:31 | 21.18 | 0.535 | 18.71 | 10.813 | 5.57 | 69.9 | -215 | 3.3 | 0.29 |
| 4/13/2012 | 21:25:32 | 21.18 | 0.535 | 18.71 | 10.815 | 5.57 | 69.9 | -215 | 3.3 | 0.29 |
| 4/13/2012 | 21:30:32 | 21.18 | 0.535 | 18.71 | 10.815 | 5.57 | 69.9 | -216 | 3.3 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 21:35:32 | 21.18 | 0.535 | 18.71 | 10.815 | 5.57 | 69.8 | -217 | 3.3 | 0.29 |
| 4/13/2012 | 21:40:32 | 21.18 | 0.535 | 18.71 | 10.815 | 5.57 | 69.8 | -218 | 3.3 | 0.29 |
| 4/13/2012 | 21:45:32 | 21.18 | 0.535 | 18.71 | 10.812 | 5.57 | 69.8 | -219 | 3.3 | 0.29 |
| 4/13/2012 | 21:50:32 | 21.12 | 0.534 | 18.71 | 10.81 | 5.57 | 69.9 | -229 | 3.3 | 0.29 |
| 4/13/2012 | 21:55:32 | 21.15 | 0.534 | 18.71 | 10.812 | 5.57 | 69.9 | -225 | 3.3 | 0.29 |
| 4/13/2012 | 22:00:32 | 21.17 | 0.534 | 18.71 | 10.812 | 5.57 | 69.9 | -215 | 3.3 | 0.29 |
| 4/13/2012 | 22:05:32 | 21.17 | 0.534 | 18.71 | 10.811 | 5.57 | 69.9 | -219 | 3.3 | 0.29 |
| 4/13/2012 | 22:10:32 | 21.17 | 0.534 | 18.71 | 10.813 | 5.57 | 69.9 | -221 | 3.3 | 0.29 |
| 4/13/2012 | 22:15:32 | 21.18 | 0.534 | 18.71 | 10.812 | 5.57 | 69.9 | -219 | 3.3 | 0.29 |
| 4/13/2012 | 22:20:32 | 21.13 | 0.534 | 18.7 | 10.807 | 5.57 | 69.9 | -219 | 3.3 | 0.29 |
| 4/13/2012 | 22:25:32 | 21.14 | 0.534 | 18.71 | 10.813 | 5.57 | 69.9 | -227 | 3.3 | 0.29 |
| 4/13/2012 | 22:30:31 | 21.16 | 0.534 | 18.71 | 10.817 | 5.57 | 69.9 | -226 | 3.3 | 0.29 |
| 4/13/2012 | 22:35:32 | 21.17 | 0.534 | 18.71 | 10.817 | 5.57 | 69.9 | -224 | 3.3 | 0.29 |
| 4/13/2012 | 22:40:31 | 21.17 | 0.534 | 18.71 | 10.815 | 5.57 | 69.9 | -223 | 3.3 | 0.29 |
| 4/13/2012 | 22:45:32 | 21.18 | 0.534 | 18.71 | 10.816 | 5.57 | 69.9 | -225 | 3.3 | 0.29 |
| 4/13/2012 | 22:50:32 | 21.18 | 0.534 | 18.71 | 10.814 | 5.57 | 69.9 | -227 | 3.3 | 0.29 |
| 4/13/2012 | 22:55:32 | 21.18 | 0.534 | 18.71 | 10.814 | 5.57 | 69.9 | -229 | 3.3 | 0.29 |
| 4/13/2012 | 23:00:32 | 21.17 | 0.534 | 18.71 | 10.816 | 5.57 | 69.9 | -230 | 3.3 | 0.29 |
| 4/13/2012 | 23:05:32 | 21.17 | 0.534 | 18.71 | 10.816 | 5.57 | 69.9 | -231 | 3.3 | 0.29 |
| 4/13/2012 | 23:10:32 | 21.18 | 0.534 | 18.71 | 10.816 | 5.57 | 69.9 | -232 | 3.3 | 0.29 |
| 4/13/2012 | 23:15:31 | 21.19 | 0.534 | 18.71 | 10.816 | 5.57 | 69.9 | -232 | 3.3 | 0.29 |
| 4/13/2012 | 23:20:32 | 21.19 | 0.534 | 18.71 | 10.816 | 5.57 | 69.9 | -233 | 3.3 | 0.29 |
| 4/13/2012 | 23:25:32 | 21.19 | 0.534 | 18.71 | 10.815 | 5.57 | 69.8 | -234 | 3.3 | 0.29 |
| 4/13/2012 | 23:30:31 | 21.19 | 0.534 | 18.71 | 10.817 | 5.57 | 69.8 | -235 | 3.3 | 0.29 |
| 4/13/2012 | 23:35:31 | 21.19 | 0.534 | 18.71 | 10.818 | 5.57 | 69.8 | -236 | 3.3 | 0.29 |
| 4/13/2012 | 23:40:32 | 21.19 | 0.534 | 18.71 | 10.819 | 5.57 | 69.8 | -237 | 3.3 | 0.29 |
| 4/13/2012 | 23:45:32 | 21.19 | 0.533 | 18.71 | 10.819 | 5.57 | 69.8 | -237 | 3.3 | 0.29 |
| 4/13/2012 | 23:50:32 | 21.18 | 0.533 | 18.71 | 10.818 | 5.57 | 69.8 | -237 | 3.3 | 0.29 |
| 4/13/2012 | 23:55:32 | 21.18 | 0.533 | 18.71 | 10.818 | 5.57 | 69.8 | -236 | 3.3 | 0.29 |
| 4/14/2012 | 0:00:32 | 21.18 | 0.534 | 18.71 | 10.819 | 5.57 | 69.8 | -236 | 3.3 | 0.29 |
| 4/14/2012 | 0:05:32 | 21.18 | 0.533 | 18.71 | 10.818 | 5.57 | 69.8 | -231 | 3.3 | 0.29 |
| 4/14/2012 | 0:10:32 | 21.14 | 0.533 | 18.71 | 10.818 | 5.57 | 69.9 | -238 | 3.3 | 0.29 |
| 4/14/2012 | 0:15:32 | 21.11 | 0.534 | 18.71 | 10.817 | 5.57 | 69.8 | -239 | 3.3 | 0.29 |
| 4/14/2012 | 0:20:32 | 21.12 | 0.534 | 18.71 | 10.818 | 5.57 | 69.8 | -239 | 3.3 | 0.29 |
| 4/14/2012 | 0:25:31 | 21.17 | 0.534 | 18.71 | 10.819 | 5.57 | 69.8 | -239 | 3.3 | 0.29 |
| 4/14/2012 | 0:30:31 | 21.14 | 0.534 | 18.71 | 10.82 | 5.57 | 69.8 | -239 | 3.3 | 0.29 |
| 4/14/2012 | 0:35:31 | 21.15 | 0.534 | 18.71 | 10.82 | 5.57 | 69.8 | -239 | 3.3 | 0.29 |
| 4/14/2012 | 0:40:31 | 21.16 | 0.534 | 18.71 | 10.82 | 5.57 | 69.8 | -238 | 3.3 | 0.29 |
| 4/14/2012 | 0:45:31 | 21.18 | 0.534 | 18.71 | 10.818 | 5.57 | 69.8 | -238 | 3.3 | 0.29 |
| 4/14/2012 | 0:50:31 | 21.17 | 0.534 | 18.71 | 10.816 | 5.57 | 69.8 | -238 | 3.3 | 0.29 |
| 4/14/2012 | 0:55:32 | 21.18 | 0.534 | 18.71 | 10.818 | 5.57 | 69.8 | -239 | 3.3 | 0.29 |
| 4/14/2012 | 1:00:32 | 21.18 | 0.534 | 18.71 | 10.819 | 5.57 | 69.9 | -239 | 3.3 | 0.29 |
| 4/14/2012 | 1:05:31 | 21.18 | 0.534 | 18.71 | 10.818 | 5.57 | 69.9 | -240 | 3.3 | 0.29 |
| 4/14/2012 | 1:10:31 | 21.19 | 0.534 | 18.71 | 10.813 | 5.57 | 69.9 | -240 | 3.3 | 0.29 |
| 4/14/2012 | 1:15:32 | 21.19 | 0.534 | 18.71 | 10.816 | 5.57 | 69.9 | -241 | 3.3 | 0.29 |
| 4/14/2012 | 1:20:31 | 21.18 | 0.534 | 18.71 | 10.819 | 5.57 | 69.8 | -241 | 3.3 | 0.29 |
| 4/14/2012 | 1:25:32 | 21.17 | 0.534 | 18.71 | 10.819 | 5.57 | 69.8 | -241 | 3.3 | 0.29 |
| 4/14/2012 | 1:30:32 | 21.17 | 0.534 | 18.71 | 10.819 | 5.57 | 69.8 | -241 | 3.3 | 0.29 |
| 4/14/2012 | 1:35:32 | 21.17 | 0.534 | 18.71 | 10.819 | 5.57 | 69.8 | -241 | 3.3 | 0.29 |
| 4/14/2012 | 1:40:31 | 21.17 | 0.534 | 18.71 | 10.82 | 5.57 | 69.8 | -241 | 3.3 | 0.29 |
| 4/14/2012 | 1:45:32 | 21.18 | 0.534 | 18.71 | 10.823 | 5.57 | 69.8 | -240 | 3.3 | 0.29 |
| 4/14/2012 | 1:50:32 | 21.17 | 0.534 | 18.71 | 10.82 | 5.57 | 69.8 | -241 | 3.3 | 0.29 |
| 4/14/2012 | 1:55:31 | 21.16 | 0.534 | 18.71 | 10.817 | 5.57 | 69.8 | -241 | 3.3 | 0.29 |
| 4/14/2012 | 2:00:31 | 21.17 | 0.534 | 18.71 | 10.816 | 5.57 | 69.8 | -241 | 3.3 | 0.29 |
| 4/14/2012 | 2:05:32 | 21.17 | 0.534 | 18.71 | 10.814 | 5.57 | 69.8 | -241 | 3.3 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 2:10:32 | 21.16 | 0.535 | 18.71 | 10.81 | 5.57 | 69.8 | -242 | 3.3 | 0.29 |
| 4/14/2012 | 2:15:32 | 21.16 | 0.535 | 18.71 | 10.809 | 5.57 | 69.8 | -242 | 3.3 | 0.29 |
| 4/14/2012 | 2:20:32 | 21.17 | 0.534 | 18.7 | 10.805 | 5.57 | 69.8 | -242 | 3.3 | 0.29 |
| 4/14/2012 | 2:25:32 | 21.17 | 0.534 | 18.71 | 10.81 | 5.57 | 69.8 | -242 | 3.3 | 0.29 |
| 4/14/2012 | 2:30:32 | 21.17 | 0.534 | 18.71 | 10.813 | 5.57 | 69.8 | -243 | 3.3 | 0.29 |
| 4/14/2012 | 2:35:31 | 21.17 | 0.534 | 18.71 | 10.813 | 5.57 | 69.8 | -243 | 3.3 | 0.29 |
| 4/14/2012 | 2:40:32 | 21.17 | 0.534 | 18.71 | 10.814 | 5.57 | 69.8 | -243 | 3.3 | 0.29 |
| 4/14/2012 | 2:45:32 | 21.17 | 0.534 | 18.71 | 10.816 | 5.57 | 69.8 | -243 | 3.3 | 0.29 |
| 4/14/2012 | 2:50:31 | 21.14 | 0.534 | 18.71 | 10.813 | 5.57 | 69.8 | -243 | 3.3 | 0.29 |
| 4/14/2012 | 2:55:31 | 21.13 | 0.534 | 18.71 | 10.815 | 5.57 | 69.8 | -245 | 3.3 | 0.29 |
| 4/14/2012 | 3:00:31 | 21.18 | 0.534 | 18.71 | 10.815 | 5.57 | 69.8 | -244 | 3.3 | 0.29 |
| 4/14/2012 | 3:05:32 | 21.17 | 0.534 | 18.71 | 10.816 | 5.57 | 69.8 | -244 | 3.3 | 0.29 |
| 4/14/2012 | 3:10:32 | 21.17 | 0.534 | 18.71 | 10.817 | 5.57 | 69.8 | -244 | 3.3 | 0.29 |
| 4/14/2012 | 3:15:31 | 21.16 | 0.535 | 18.71 | 10.817 | 5.57 | 69.8 | -245 | 3.3 | 0.29 |
| 4/14/2012 | 3:20:32 | 21.18 | 0.534 | 18.71 | 10.817 | 5.57 | 69.8 | -244 | 3.3 | 0.29 |
| 4/14/2012 | 3:25:32 | 21.19 | 0.533 | 18.71 | 10.815 | 5.57 | 69.9 | -244 | 3.3 | 0.29 |
| 4/14/2012 | 3:30:32 | 21.19 | 0.533 | 18.71 | 10.816 | 5.57 | 69.9 | -245 | 3.3 | 0.29 |
| 4/14/2012 | 3:35:31 | 21.19 | 0.533 | 18.71 | 10.818 | 5.57 | 69.9 | -246 | 3.3 | 0.29 |
| 4/14/2012 | 3:40:32 | 21.16 | 0.533 | 18.71 | 10.815 | 5.57 | 69.9 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 3:45:32 | 21.16 | 0.534 | 18.71 | 10.819 | 5.57 | 69.9 | -248 | 3.3 | 0.29 |
| 4/14/2012 | 3:50:31 | 21.18 | 0.534 | 18.71 | 10.822 | 5.57 | 69.9 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 3:55:32 | 21.18 | 0.533 | 18.71 | 10.824 | 5.57 | 69.9 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 4:00:31 | 21.18 | 0.533 | 18.71 | 10.826 | 5.57 | 69.8 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 4:05:32 | 21.18 | 0.534 | 18.71 | 10.827 | 5.57 | 69.9 | -245 | 3.3 | 0.29 |
| 4/14/2012 | 4:10:32 | 21.19 | 0.534 | 18.71 | 10.827 | 5.57 | 69.8 | -245 | 3.3 | 0.29 |
| 4/14/2012 | 4:15:32 | 21.19 | 0.533 | 18.71 | 10.827 | 5.57 | 69.9 | -246 | 3.3 | 0.29 |
| 4/14/2012 | 4:20:32 | 21.19 | 0.533 | 18.71 | 10.825 | 5.57 | 69.9 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 4:25:32 | 21.2 | 0.533 | 18.71 | 10.825 | 5.57 | 69.9 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 4:30:32 | 21.21 | 0.533 | 18.71 | 10.827 | 5.57 | 69.8 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 4:35:32 | 21.18 | 0.532 | 18.71 | 10.829 | 5.57 | 69.8 | -248 | 3.3 | 0.29 |
| 4/14/2012 | 4:40:31 | 21.15 | 0.533 | 18.71 | 10.829 | 5.57 | 69.8 | -248 | 3.3 | 0.29 |
| 4/14/2012 | 4:45:31 | 21.16 | 0.533 | 18.71 | 10.83 | 5.57 | 69.8 | -248 | 3.3 | 0.29 |
| 4/14/2012 | 4:50:31 | 21.17 | 0.534 | 18.71 | 10.831 | 5.57 | 69.8 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 4:55:31 | 21.19 | 0.534 | 18.72 | 10.833 | 5.57 | 69.8 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 5:00:31 | 21.19 | 0.533 | 18.72 | 10.833 | 5.57 | 69.8 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 5:05:32 | 21.19 | 0.533 | 18.72 | 10.835 | 5.57 | 69.8 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 5:10:31 | 21.19 | 0.533 | 18.72 | 10.836 | 5.57 | 69.8 | -248 | 3.3 | 0.29 |
| 4/14/2012 | 5:15:31 | 21.17 | 0.533 | 18.72 | 10.839 | 5.57 | 69.8 | -248 | 3.3 | 0.29 |
| 4/14/2012 | 5:20:31 | 21.18 | 0.534 | 18.72 | 10.836 | 5.57 | 69.9 | -249 | 3.3 | 0.29 |
| 4/14/2012 | 5:25:32 | 21.18 | 0.534 | 18.72 | 10.841 | 5.57 | 69.9 | -249 | 3.3 | 0.29 |
| 4/14/2012 | 5:30:32 | 21.17 | 0.533 | 18.72 | 10.837 | 5.57 | 69.9 | -249 | 3.3 | 0.29 |
| 4/14/2012 | 5:35:31 | 21.14 | 0.534 | 18.72 | 10.838 | 5.57 | 69.9 | -249 | 3.3 | 0.29 |
| 4/14/2012 | 5:40:31 | 21.17 | 0.534 | 18.72 | 10.839 | 5.57 | 69.9 | -248 | 3.3 | 0.29 |
| 4/14/2012 | 5:45:31 | 21.18 | 0.534 | 18.72 | 10.843 | 5.57 | 69.8 | -248 | 3.3 | 0.29 |
| 4/14/2012 | 5:50:31 | 21.18 | 0.534 | 18.72 | 10.844 | 5.57 | 69.8 | -247 | 3.3 | 0.29 |
| 4/14/2012 | 5:55:31 | 21.2 | 0.534 | 18.72 | 10.843 | 5.57 | 69.8 | -248 | 3.3 | 0.29 |
| 4/14/2012 | 6:00:31 | 21.19 | 0.533 | 18.72 | 10.844 | 5.57 | 69.9 | -248 | 3.3 | 0.29 |
| 4/14/2012 | 6:05:31 | 21.19 | 0.533 | 18.72 | 10.846 | 5.57 | 69.9 | -249 | 3.3 | 0.29 |
| 4/14/2012 | 6:10:31 | 21.18 | 0.534 | 18.72 | 10.85 | 5.57 | 69.9 | -250 | 3.3 | 0.29 |
| 4/14/2012 | 6:15:31 | 21.19 | 0.533 | 18.72 | 10.848 | 5.57 | 69.9 | -250 | 3.3 | 0.29 |
| 4/14/2012 | 6:20:31 | 21.16 | 0.533 | 18.72 | 10.849 | 5.57 | 69.9 | -250 | 3.3 | 0.29 |
| 4/14/2012 | 6:25:31 | 21.16 | 0.532 | 18.72 | 10.853 | 5.57 | 69.8 | -251 | 3.3 | 0.29 |
| 4/14/2012 | 6:30:31 | 21.16 | 0.533 | 18.72 | 10.853 | 5.57 | 69.8 | -250 | 3.3 | 0.29 |
| 4/14/2012 | 6:35:31 | 21.19 | 0.532 | 18.72 | 10.851 | 5.57 | 69.9 | -250 | 3.3 | 0.29 |
| 4/14/2012 | 6:40:31 | 21.21 | 0.532 | 18.72 | 10.854 | 5.57 | 69.9 | -250 | 3.3 | 0.29 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 6:45:31 | 21.15 | 0.533 | 18.72 | 10.846 | 5.57 | 69.9 | -250 | 3.3 | 0.29 |
| 4/14/2012 | 6:50:32 | 21.16 | 0.533 | 18.72 | 10.852 | 5.57 | 69.9 | -251 | 3.3 | 0.29 |
| 4/14/2012 | 6:55:32 | 21.15 | 0.533 | 18.73 | 10.856 | 5.57 | 69.9 | -249 | 3.3 | 0.29 |
| 4/14/2012 | 7:00:32 | 21.14 | 0.533 | 18.73 | 10.856 | 5.57 | 69.9 | -250 | 3.3 | 0.29 |
| 4/14/2012 | 7:05:31 | 21.15 | 0.533 | 18.73 | 10.857 | 5.57 | 69.9 | -249 | 3.3 | 0.29 |
| 4/14/2012 | 7:10:31 | 21.18 | 0.533 | 18.73 | 10.858 | 5.57 | 69.8 | -249 | 3.3 | 0.29 |
| 4/14/2012 | 7:15:31 | 21.19 | 0.533 | 18.73 | 10.861 | 5.57 | 69.8 | -249 | 3.3 | 0.29 |
| 4/14/2012 | 7:20:31 | 21.2 | 0.533 | 18.73 | 10.862 | 5.57 | 69.8 | -249 | 3.3 | 0.29 |
| 4/14/2012 | 7:25:32 | 21.2 | 0.533 | 18.73 | 10.866 | 5.57 | 69.8 | -250 | 3.3 | 0.29 |
| 4/14/2012 | 7:30:31 | 21.19 | 0.534 | 18.73 | 10.864 | 5.57 | 69.9 | -250 | 3.3 | 0.29 |
| 4/14/2012 | 7:35:31 | 21.19 | 0.534 | 18.73 | 10.865 | 5.57 | 69.9 | -250 | 3.3 | 0.29 |
| 4/14/2012 | 7:40:32 | 21.19 | 0.534 | 18.73 | 10.864 | 5.57 | 69.9 | -251 | 3.3 | 0.29 |
| 4/14/2012 | 7:45:32 | 21.2 | 0.533 | 18.73 | 10.866 | 5.57 | 69.9 | -251 | 3.3 | 0.29 |
| 4/14/2012 | 7:50:31 | 21.2 | 0.533 | 18.73 | 10.863 | 5.57 | 69.9 | -252 | 3.3 | 0.29 |
| 4/14/2012 | 7:55:31 | 21.21 | 0.534 | 18.73 | 10.863 | 5.57 | 69.9 | -252 | 3.3 | 0.29 |
| 4/14/2012 | 8:00:31 | 21.21 | 0.533 | 18.73 | 10.863 | 5.57 | 69.9 | -252 | 3.3 | 0.29 |
| 4/14/2012 | 8:05:31 | 21.21 | 0.533 | 18.73 | 10.862 | 5.57 | 69.9 | -252 | 3.3 | 0.29 |
| 4/14/2012 | 8:10:31 | 21.2 | 0.532 | 18.73 | 10.862 | 5.57 | 69.9 | -252 | 3.3 | 0.29 |
| 4/14/2012 | 8:15:31 | 21.19 | 0.532 | 18.73 | 10.861 | 5.57 | 69.8 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 8:20:31 | 21.19 | 0.532 | 18.73 | 10.861 | 5.57 | 69.9 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 8:25:31 | 21.19 | 0.533 | 18.73 | 10.859 | 5.57 | 69.9 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 8:30:31 | 21.19 | 0.533 | 18.73 | 10.858 | 5.57 | 69.9 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 8:35:31 | 21.19 | 0.533 | 18.73 | 10.862 | 5.57 | 69.8 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 8:40:31 | 21.18 | 0.533 | 18.73 | 10.862 | 5.57 | 69.8 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 8:45:31 | 21.18 | 0.533 | 18.73 | 10.863 | 5.57 | 69.8 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 8:50:31 | 21.18 | 0.533 | 18.73 | 10.864 | 5.57 | 69.8 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 8:55:32 | 21.18 | 0.533 | 18.73 | 10.865 | 5.57 | 69.8 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 9:00:31 | 21.19 | 0.533 | 18.73 | 10.863 | 5.57 | 69.8 | -254 | 3.3 | 0.29 |
| 4/14/2012 | 9:05:31 | 21.16 | 0.533 | 18.73 | 10.862 | 5.57 | 69.9 | -254 | 3.3 | 0.29 |
| 4/14/2012 | 9:10:31 | 21.17 | 0.533 | 18.73 | 10.86 | 5.57 | 69.9 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 9:15:32 | 21.16 | 0.533 | 18.73 | 10.858 | 5.57 | 69.9 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 9:20:31 | 21.18 | 0.533 | 18.73 | 10.858 | 5.57 | 69.9 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 9:25:31 | 21.2 | 0.533 | 18.73 | 10.859 | 5.57 | 69.9 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 9:30:31 | 21.21 | 0.533 | 18.73 | 10.856 | 5.57 | 69.8 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 9:35:31 | 21.2 | 0.533 | 18.73 | 10.856 | 5.57 | 69.8 | -253 | 3.3 | 0.29 |
| 4/14/2012 | 9:40:31 | 21.2 | 0.532 | 18.73 | 10.86 | 5.57 | 69.9 | -254 | 3.3 | 0.29 |
| 4/14/2012 | 9:45:31 | 21.19 | 0.532 | 18.73 | 10.86 | 5.57 | 69.9 | -254 | 3.3 | 0.29 |
| 4/14/2012 | 9:50:31 | 21.19 | 0.532 | 18.73 | 10.862 | 5.57 | 69.9 | -254 | 3.3 | 0.29 |
| 4/14/2012 | 9:55:31 | 21.19 | 0.532 | 18.73 | 10.862 | 5.57 | 69.9 | -254 | 3.3 | 0.29 |
| 4/14/2012 | 10:00:32 | 21.19 | 0.532 | 18.73 | 10.863 | 5.57 | 69.9 | -255 | 3.3 | 0.29 |
| 4/14/2012 | 10:05:32 | 21.19 | 0.533 | 18.73 | 10.862 | 5.57 | 69.9 | -255 | 3.3 | 0.29 |
| 4/14/2012 | 10:10:32 | 21.19 | 0.533 | 18.73 | 10.861 | 5.57 | 69.9 | -255 | 3.3 | 0.29 |
| 4/14/2012 | 10:15:32 | 21.18 | 0.533 | 18.73 | 10.861 | 5.57 | 69.8 | -255 | 3.3 | 0.29 |
| 4/14/2012 | 10:20:32 | 21.18 | 0.533 | 18.73 | 10.86 | 5.57 | 69.8 | -255 | 3.3 | 0.29 |
| 4/14/2012 | 10:25:32 | 21.18 | 0.533 | 18.73 | 10.86 | 5.57 | 69.8 | -254 | 3.3 | 0.29 |
| 4/14/2012 | 10:30:32 | 21.18 | 0.533 | 18.73 | 10.859 | 5.57 | 69.8 | -254 | 3.3 | 0.29 |
| 4/14/2012 | 10:35:31 | 21.18 | 0.533 | 18.73 | 10.86 | 5.57 | 69.8 | -254 | 3.3 | 0.29 |
| 4/14/2012 | 10:40:31 | 21.18 | 0.533 | 18.73 | 10.86 | 5.57 | 69.8 | -255 | 3.3 | 0.29 |
| 4/14/2012 | 10:45:31 | 21.18 | 0.533 | 18.73 | 10.862 | 5.57 | 69.8 | -255 | 3.3 | 0.29 |
| 4/14/2012 | 10:50:32 | 21.18 | 0.533 | 18.73 | 10.86 | 5.57 | 69.8 | -255 | 3.3 | 0.29 |
| 4/14/2012 | 10:55:32 | 21.11 | 0.532 | 18.72 | 10.851 | 5.57 | 69.9 | -254 | 3.3 | 0.29 |
| 4/14/2012 | 11:00:32 | 21.17 | 0.532 | 18.73 | 10.86 | 5.57 | 69.9 | -255 | 3.3 | 0.29 |
| 4/14/2012 | 11:05:31 | 21.16 | 0.533 | 18.73 | 10.862 | 5.57 | 69.9 | -255 | 3.3 | 0.29 |
| 4/14/2012 | 11:10:31 | 21.17 | 0.533 | 18.73 | 10.862 | 5.57 | 69.9 | -255 | 3.3 | 0.29 |
| 4/14/2012 | 11:15:31 | 21.17 | 0.533 | 18.73 | 10.865 | 5.57 | 69.9 | -255 | 3.3 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 11:20:32 | 21.17 | 0.532 | 18.73 | 10.862 | 5.57 | 69.9 | -256 | 3.3 | 0.29 |
| 4/14/2012 | 11:25:32 | 21.18 | 0.532 | 18.73 | 10.865 | 5.57 | 69.9 | -257 | 3.3 | 0.29 |
| 4/14/2012 | 11:30:32 | 21.18 | 0.531 | 18.73 | 10.862 | 5.57 | 69.9 | -257 | 3.3 | 0.29 |
| 4/14/2012 | 11:35:31 | 21.17 | 0.531 | 18.73 | 10.862 | 5.57 | 69.9 | -257 | 3.3 | 0.29 |
| 4/14/2012 | 11:40:32 | 21.18 | 0.531 | 18.73 | 10.864 | 5.57 | 69.9 | -258 | 3.3 | 0.29 |
| 4/14/2012 | 11:45:31 | 21.18 | 0.531 | 18.73 | 10.863 | 5.57 | 69.9 | -258 | 3.3 | 0.29 |
| 4/14/2012 | 11:50:31 | 21.18 | 0.532 | 18.73 | 10.862 | 5.57 | 69.9 | -258 | 3.3 | 0.29 |
| 4/14/2012 | 11:55:31 | 21.19 | 0.532 | 18.73 | 10.861 | 5.57 | 69.9 | -259 | 3.3 | 0.29 |
| 4/14/2012 | 12:00:31 | 21.18 | 0.532 | 18.73 | 10.861 | 5.57 | 69.9 | -259 | 3.3 | 0.29 |
| 4/14/2012 | 12:05:32 | 21.18 | 0.532 | 18.73 | 10.859 | 5.57 | 69.9 | -258 | 3.3 | 0.29 |
| 4/14/2012 | 12:10:32 | 21.18 | 0.532 | 18.73 | 10.861 | 5.57 | 69.9 | -258 | 3.3 | 0.29 |
| 4/14/2012 | 12:15:31 | 21.18 | 0.532 | 18.73 | 10.859 | 5.57 | 69.9 | -258 | 3.3 | 0.29 |
| 4/14/2012 | 12:20:31 | 21.18 | 0.532 | 18.73 | 10.863 | 5.57 | 69.9 | -258 | 3.3 | 0.29 |
| 4/14/2012 | 12:25:31 | 21.18 | 0.532 | 18.73 | 10.861 | 5.57 | 69.9 | -258 | 3.3 | 0.29 |
| 4/14/2012 | 12:30:31 | 21.18 | 0.532 | 18.73 | 10.864 | 5.57 | 69.9 | -258 | 3.3 | 0.29 |
| 4/14/2012 | 12:35:32 | 21.18 | 0.532 | 18.73 | 10.862 | 5.57 | 69.9 | -258 | 3.3 | 0.29 |
| 4/14/2012 | 12:40:31 | 21.18 | 0.532 | 18.73 | 10.86 | 5.57 | 69.9 | -259 | 3.3 | 0.29 |
| 4/14/2012 | 12:45:32 | 21.18 | 0.532 | 18.73 | 10.86 | 5.57 | 69.9 | -259 | 3.3 | 0.29 |
| 4/14/2012 | 12:50:31 | 21.18 | 0.532 | 18.73 | 10.858 | 5.57 | 69.9 | -259 | 3.3 | 0.29 |
| 4/14/2012 | 12:55:31 | 21.18 | 0.532 | 18.73 | 10.859 | 5.57 | 69.9 | -259 | 3.3 | 0.29 |
| 4/14/2012 | 13:00:31 | 21.18 | 0.532 | 18.73 | 10.859 | 5.57 | 69.9 | -259 | 3.3 | 0.29 |
| 4/14/2012 | 13:05:31 | 21.18 | 0.532 | 18.73 | 10.856 | 5.57 | 69.9 | -259 | 3.3 | 0.29 |
| 4/14/2012 | 13:10:31 | 21.18 | 0.532 | 18.73 | 10.858 | 5.57 | 69.9 | -259 | 3.3 | 0.29 |
| 4/14/2012 | 13:15:31 | 21.18 | 0.532 | 18.73 | 10.858 | 5.57 | 69.9 | -259 | 3.3 | 0.29 |
| 4/14/2012 | 13:20:31 | 21.18 | 0.532 | 18.73 | 10.858 | 5.57 | 69.9 | -259 | 3.3 | 0.29 |
| 4/14/2012 | 13:25:32 | 21.18 | 0.532 | 18.73 | 10.858 | 5.57 | 69.9 | -260 | 3.3 | 0.29 |
| 4/14/2012 | 13:30:31 | 21.18 | 0.532 | 18.73 | 10.857 | 5.57 | 69.9 | -260 | 3.3 | 0.29 |
| 4/14/2012 | 13:35:31 | 21.17 | 0.532 | 18.73 | 10.858 | 5.57 | 69.9 | -260 | 3.3 | 0.29 |
| 4/14/2012 | 13:40:31 | 21.16 | 0.531 | 18.73 | 10.857 | 5.57 | 69.9 | -260 | 3.3 | 0.29 |
| 4/14/2012 | 13:45:31 | 21.13 | 0.532 | 18.73 | 10.858 | 5.57 | 69.9 | -261 | 3.3 | 0.29 |
| 4/14/2012 | 13:50:31 | 21.13 | 0.532 | 18.73 | 10.854 | 5.57 | 70 | -261 | 3.3 | 0.29 |
| 4/14/2012 | 13:55:32 | 21.14 | 0.532 | 18.73 | 10.856 | 5.57 | 69.9 | -261 | 3.3 | 0.29 |
| 4/14/2012 | 14:00:31 | 21.17 | 0.532 | 18.73 | 10.857 | 5.57 | 69.9 | -261 | 3.3 | 0.29 |
| 4/14/2012 | 14:05:31 | 21.17 | 0.532 | 18.73 | 10.854 | 5.57 | 69.9 | -261 | 3.3 | 0.29 |
| 4/14/2012 | 14:10:31 | 21.16 | 0.532 | 18.72 | 10.85 | 5.57 | 69.9 | -260 | 3.3 | 0.29 |
| 4/14/2012 | 14:15:32 | 21.13 | 0.532 | 18.72 | 10.851 | 5.57 | 69.9 | -262 | 3.3 | 0.29 |
| 4/14/2012 | 14:20:31 | 21.18 | 0.532 | 18.72 | 10.85 | 5.57 | 69.9 | -261 | 3.3 | 0.29 |
| 4/14/2012 | 14:25:31 | 21.18 | 0.532 | 18.72 | 10.849 | 5.57 | 69.9 | -261 | 3.2 | 0.29 |
| 4/14/2012 | 14:30:31 | 21.18 | 0.532 | 18.72 | 10.849 | 5.57 | 69.9 | -261 | 3.3 | 0.29 |
| 4/14/2012 | 14:35:31 | 21.19 | 0.532 | 18.72 | 10.85 | 5.57 | 69.9 | -261 | 3.2 | 0.29 |
| 4/14/2012 | 14:40:31 | 21.2 | 0.531 | 18.72 | 10.85 | 5.57 | 69.9 | -262 | 3.3 | 0.29 |
| 4/14/2012 | 14:45:31 | 21.2 | 0.531 | 18.72 | 10.846 | 5.57 | 70 | -263 | 3.3 | 0.29 |
| 4/14/2012 | 14:50:31 | 21.18 | 0.532 | 18.72 | 10.847 | 5.57 | 70 | -264 | 3.3 | 0.29 |
| 4/14/2012 | 14:55:31 | 21.2 | 0.532 | 18.72 | 10.845 | 5.57 | 69.9 | -264 | 3.3 | 0.29 |
| 4/14/2012 | 15:00:32 | 21.2 | 0.531 | 18.72 | 10.845 | 5.57 | 70 | -264 | 3.3 | 0.29 |
| 4/14/2012 | 15:05:31 | 21.2 | 0.531 | 18.72 | 10.843 | 5.57 | 69.9 | -264 | 3.3 | 0.29 |
| 4/14/2012 | 15:10:31 | 21.2 | 0.531 | 18.72 | 10.842 | 5.57 | 70 | -264 | 3.3 | 0.29 |
| 4/14/2012 | 15:15:31 | 21.19 | 0.53 | 18.72 | 10.843 | 5.57 | 70 | -264 | 3.3 | 0.29 |
| 4/14/2012 | 15:20:31 | 21.19 | 0.531 | 18.72 | 10.842 | 5.57 | 69.9 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 15:25:32 | 21.19 | 0.532 | 18.72 | 10.841 | 5.57 | 69.9 | -264 | 3.3 | 0.29 |
| 4/14/2012 | 15:30:32 | 21.18 | 0.532 | 18.72 | 10.838 | 5.57 | 69.9 | -264 | 3.3 | 0.29 |
| 4/14/2012 | 15:35:32 | 21.18 | 0.532 | 18.72 | 10.836 | 5.57 | 69.9 | -263 | 3.3 | 0.29 |
| 4/14/2012 | 15:40:32 | 21.18 | 0.532 | 18.72 | 10.833 | 5.57 | 69.9 | -263 | 3.3 | 0.29 |
| 4/14/2012 | 15:45:31 | 21.18 | 0.532 | 18.72 | 10.834 | 5.57 | 69.9 | -263 | 3.3 | 0.29 |
| 4/14/2012 | 15:50:31 | 21.18 | 0.532 | 18.72 | 10.835 | 5.57 | 69.9 | -264 | 3.3 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 15:55:31 | 21.18 | 0.532 | 18.72 | 10.835 | 5.57 | 70 | -264 | 3.3 | 0.29 |
| 4/14/2012 | 16:00:31 | 21.18 | 0.532 | 18.72 | 10.834 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 16:05:31 | 21.18 | 0.532 | 18.72 | 10.832 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 16:10:31 | 21.17 | 0.532 | 18.72 | 10.832 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 16:15:31 | 21.17 | 0.532 | 18.71 | 10.828 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 16:20:31 | 21.18 | 0.531 | 18.71 | 10.83 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 16:25:32 | 21.18 | 0.531 | 18.71 | 10.829 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 16:30:31 | 21.18 | 0.531 | 18.71 | 10.827 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 16:35:31 | 21.18 | 0.532 | 18.71 | 10.827 | 5.57 | 70 | -265 | 3.2 | 0.29 |
| 4/14/2012 | 16:40:31 | 21.18 | 0.531 | 18.71 | 10.828 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 16:45:31 | 21.18 | 0.531 | 18.71 | 10.827 | 5.57 | 70 | -265 | 3.2 | 0.29 |
| 4/14/2012 | 16:50:32 | 21.18 | 0.531 | 18.71 | 10.828 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 16:55:32 | 21.18 | 0.531 | 18.71 | 10.827 | 5.57 | 70 | -265 | 3.2 | 0.29 |
| 4/14/2012 | 17:00:32 | 21.18 | 0.531 | 18.71 | 10.829 | 5.57 | 70 | -265 | 3.2 | 0.29 |
| 4/14/2012 | 17:05:32 | 21.18 | 0.531 | 18.72 | 10.833 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 17:10:31 | 21.17 | 0.531 | 18.71 | 10.826 | 5.57 | 70 | -265 | 3.2 | 0.29 |
| 4/14/2012 | 17:15:31 | 21.17 | 0.531 | 18.71 | 10.824 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 17:20:31 | 21.17 | 0.531 | 18.71 | 10.829 | 5.57 | 70 | -265 | 3.3 | 0.29 |
| 4/14/2012 | 17:25:31 | 21.17 | 0.531 | 18.71 | 10.828 | 5.57 | 70 | -266 | 3.3 | 0.29 |
| 4/14/2012 | 17:30:31 | 21.17 | 0.531 | 18.71 | 10.827 | 5.57 | 70.1 | -266 | 3.3 | 0.29 |
| 4/14/2012 | 17:35:31 | 21.17 | 0.531 | 18.71 | 10.825 | 5.57 | 70.1 | -267 | 3.3 | 0.29 |
| 4/14/2012 | 17:40:31 | 21.17 | 0.531 | 18.71 | 10.824 | 5.57 | 70 | -267 | 3.3 | 0.29 |
| 4/14/2012 | 17:45:31 | 21.1 | 0.531 | 18.71 | 10.813 | 5.56 | 70.1 | -266 | 3.3 | 0.29 |
| 4/14/2012 | 17:50:32 | 21.18 | 0.531 | 18.71 | 10.817 | 5.56 | 70.1 | -267 | 3.2 | 0.29 |
| 4/14/2012 | 17:55:32 | 21.17 | 0.531 | 18.71 | 10.821 | 5.56 | 70.1 | -268 | 3.2 | 0.29 |
| 4/14/2012 | 18:00:31 | 21.17 | 0.531 | 18.71 | 10.821 | 5.57 | 70.1 | -268 | 3.3 | 0.29 |
| 4/14/2012 | 18:05:31 | 21.18 | 0.531 | 18.71 | 10.825 | 5.57 | 70.1 | -268 | 3.2 | 0.29 |
| 4/14/2012 | 18:10:31 | 21.17 | 0.531 | 18.71 | 10.826 | 5.57 | 70 | -268 | 3.2 | 0.29 |
| 4/14/2012 | 18:15:31 | 21.17 | 0.531 | 18.71 | 10.83 | 5.57 | 70.1 | -268 | 3.2 | 0.29 |
| 4/14/2012 | 18:20:31 | 21.14 | 0.531 | 18.71 | 10.829 | 5.56 | 70.1 | -268 | 3.2 | 0.29 |
| 4/14/2012 | 18:25:32 | 21.15 | 0.531 | 18.71 | 10.829 | 5.56 | 70.1 | -269 | 3.2 | 0.29 |
| 4/14/2012 | 18:30:32 | 21.18 | 0.531 | 18.71 | 10.828 | 5.57 | 70.1 | -269 | 3.3 | 0.29 |
| 4/14/2012 | 18:35:31 | 21.15 | 0.531 | 18.71 | 10.827 | 5.56 | 70.1 | -269 | 3.3 | 0.29 |
| 4/14/2012 | 18:40:32 | 21.15 | 0.531 | 18.71 | 10.826 | 5.56 | 70.1 | -270 | 3.3 | 0.29 |
| 4/14/2012 | 18:45:31 | 21.13 | 0.531 | 18.71 | 10.823 | 5.56 | 70.1 | -270 | 3.3 | 0.29 |
| 4/14/2012 | 18:50:31 | 21.16 | 0.531 | 18.71 | 10.822 | 5.56 | 70.1 | -270 | 3.3 | 0.29 |
| 4/14/2012 | 18:55:31 | 21.15 | 0.531 | 18.71 | 10.823 | 5.56 | 70.1 | -271 | 3.3 | 0.29 |
| 4/14/2012 | 19:00:31 | 21.17 | 0.531 | 18.71 | 10.821 | 5.56 | 70.1 | -270 | 3.3 | 0.29 |
| 4/14/2012 | 19:05:32 | 21.18 | 0.531 | 18.71 | 10.821 | 5.57 | 70.1 | -270 | 3.3 | 0.29 |
| 4/14/2012 | 19:10:31 | 21.19 | 0.531 | 18.71 | 10.821 | 5.56 | 70.1 | -270 | 3.2 | 0.29 |
| 4/14/2012 | 19:15:31 | 21.2 | 0.531 | 18.71 | 10.818 | 5.56 | 70.1 | -270 | 3.2 | 0.29 |
| 4/14/2012 | 19:20:31 | 21.21 | 0.531 | 18.71 | 10.818 | 5.57 | 70.1 | -271 | 3.3 | 0.29 |
| 4/14/2012 | 19:25:31 | 21.21 | 0.531 | 18.71 | 10.82 | 5.57 | 70.1 | -271 | 3.3 | 0.29 |
| 4/14/2012 | 19:30:31 | 21.16 | 0.53 | 18.71 | 10.821 | 5.56 | 70.1 | -271 | 3.3 | 0.29 |
| 4/14/2012 | 19:35:31 | 21.13 | 0.531 | 18.71 | 10.82 | 5.56 | 70.1 | -272 | 3.2 | 0.29 |
| 4/14/2012 | 19:40:31 | 21.14 | 0.531 | 18.71 | 10.815 | 5.56 | 70.1 | -272 | 3.2 | 0.29 |
| 4/14/2012 | 19:45:31 | 21.15 | 0.531 | 18.71 | 10.818 | 5.56 | 70.1 | -272 | 3.3 | 0.29 |
| 4/14/2012 | 19:50:31 | 21.18 | 0.531 | 18.71 | 10.816 | 5.56 | 70.1 | -272 | 3.2 | 0.29 |
| 4/14/2012 | 19:55:31 | 21.15 | 0.531 | 18.71 | 10.815 | 5.56 | 70.1 | -272 | 3.3 | 0.29 |
| 4/14/2012 | 20:00:31 | 21.17 | 0.531 | 18.71 | 10.815 | 5.56 | 70.1 | -272 | 3.3 | 0.29 |
| 4/14/2012 | 20:05:31 | 21.16 | 0.53 | 18.71 | 10.814 | 5.56 | 70.1 | -272 | 3.2 | 0.29 |
| 4/14/2012 | 20:10:31 | 21.14 | 0.531 | 18.71 | 10.815 | 5.56 | 70.1 | -272 | 3.2 | 0.29 |
| 4/14/2012 | 20:15:31 | 21.18 | 0.531 | 18.71 | 10.814 | 5.56 | 70.1 | -272 | 3.3 | 0.29 |
| 4/14/2012 | 20:20:31 | 21.2 | 0.531 | 18.71 | 10.812 | 5.56 | 70.1 | -272 | 3.2 | 0.29 |
| 4/14/2012 | 20:25:31 | 21.2 | 0.531 | 18.71 | 10.812 | 5.56 | 70.1 | -273 | 3.2 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 20:30:31 | 21.2 | 0.53 | 18.71 | 10.812 | 5.56 | 70.1 | -273 | 3.2 | 0.29 |
| 4/14/2012 | 20:35:32 | 21.2 | 0.53 | 18.71 | 10.812 | 5.56 | 70.1 | -274 | 3.3 | 0.29 |
| 4/14/2012 | 20:40:32 | 21.2 | 0.53 | 18.71 | 10.813 | 5.56 | 70.1 | -274 | 3.3 | 0.29 |
| 4/14/2012 | 20:45:31 | 21.2 | 0.53 | 18.71 | 10.814 | 5.56 | 70.1 | -275 | 3.3 | 0.29 |
| 4/14/2012 | 20:50:31 | 21.11 | 0.531 | 18.71 | 10.814 | 5.56 | 70.1 | -276 | 3.3 | 0.29 |
| 4/14/2012 | 20:55:31 | 21.16 | 0.531 | 18.71 | 10.811 | 5.57 | 70.1 | -275 | 3.3 | 0.29 |
| 4/14/2012 | 21:00:31 | 21.18 | 0.531 | 18.71 | 10.812 | 5.56 | 70.1 | -274 | 3.2 | 0.29 |
| 4/14/2012 | 21:05:31 | 21.19 | 0.531 | 18.71 | 10.81 | 5.57 | 70.1 | -275 | 3.2 | 0.29 |
| 4/14/2012 | 21:10:31 | 21.19 | 0.531 | 18.71 | 10.81 | 5.57 | 70.1 | -275 | 3.2 | 0.29 |
| 4/14/2012 | 21:15:31 | 21.2 | 0.531 | 18.71 | 10.81 | 5.57 | 70.1 | -275 | 3.2 | 0.29 |
| 4/14/2012 | 21:20:32 | 21.2 | 0.531 | 18.71 | 10.808 | 5.56 | 70.1 | -274 | 3.3 | 0.29 |
| 4/14/2012 | 21:25:32 | 21.2 | 0.531 | 18.71 | 10.808 | 5.56 | 70.1 | -275 | 3.3 | 0.29 |
| 4/14/2012 | 21:30:31 | 21.19 | 0.531 | 18.7 | 10.806 | 5.56 | 70.1 | -276 | 3.3 | 0.29 |
| 4/14/2012 | 21:35:31 | 21.18 | 0.531 | 18.7 | 10.807 | 5.56 | 70.1 | -277 | 3.2 | 0.29 |
| 4/14/2012 | 21:40:31 | 21.18 | 0.531 | 18.7 | 10.806 | 5.56 | 70.1 | -277 | 3.3 | 0.29 |
| 4/14/2012 | 21:45:31 | 21.18 | 0.531 | 18.7 | 10.806 | 5.56 | 70.1 | -278 | 3.2 | 0.29 |
| 4/14/2012 | 21:50:31 | 21.18 | 0.531 | 18.7 | 10.805 | 5.56 | 70.1 | -278 | 3.3 | 0.29 |
| 4/14/2012 | 21:55:31 | 21.18 | 0.531 | 18.7 | 10.806 | 5.56 | 70.1 | -278 | 3.2 | 0.29 |
| 4/14/2012 | 22:00:31 | 21.18 | 0.531 | 18.7 | 10.806 | 5.57 | 70.1 | -277 | 3.2 | 0.29 |
| 4/14/2012 | 22:05:31 | 21.18 | 0.531 | 18.7 | 10.807 | 5.57 | 70.1 | -276 | 3.2 | 0.29 |
| 4/14/2012 | 22:10:31 | 21.18 | 0.531 | 18.7 | 10.805 | 5.57 | 70.1 | -276 | 3.2 | 0.29 |
| 4/14/2012 | 22:15:31 | 21.18 | 0.531 | 18.7 | 10.804 | 5.56 | 70.1 | -276 | 3.2 | 0.29 |
| 4/14/2012 | 22:20:31 | 21.18 | 0.531 | 18.7 | 10.805 | 5.57 | 70.1 | -276 | 3.2 | 0.29 |
| 4/14/2012 | 22:25:31 | 21.18 | 0.531 | 18.7 | 10.803 | 5.57 | 70.1 | -276 | 3.3 | 0.29 |
| 4/14/2012 | 22:30:31 | 21.13 | 0.53 | 18.7 | 10.801 | 5.56 | 70.1 | -276 | 3.3 | 0.29 |
| 4/14/2012 | 22:35:31 | 21.11 | 0.531 | 18.7 | 10.801 | 5.56 | 70.1 | -276 | 3.3 | 0.29 |
| 4/14/2012 | 22:40:31 | 21.11 | 0.531 | 18.7 | 10.8 | 5.56 | 70.1 | -277 | 3.2 | 0.29 |
| 4/14/2012 | 22:45:31 | 21.12 | 0.531 | 18.7 | 10.798 | 5.56 | 70.1 | -278 | 3.3 | 0.29 |
| 4/14/2012 | 22:50:31 | 21.15 | 0.531 | 18.7 | 10.798 | 5.56 | 70.1 | -278 | 3.2 | 0.29 |
| 4/14/2012 | 22:55:31 | 21.17 | 0.531 | 18.7 | 10.797 | 5.56 | 70.1 | -278 | 3.2 | 0.29 |
| 4/14/2012 | 23:00:31 | 21.19 | 0.531 | 18.7 | 10.796 | 5.57 | 70.1 | -278 | 3.2 | 0.29 |
| 4/14/2012 | 23:05:31 | 21.2 | 0.531 | 18.7 | 10.793 | 5.57 | 70.1 | -278 | 3.2 | 0.29 |
| 4/14/2012 | 23:10:32 | 21.2 | 0.531 | 18.7 | 10.795 | 5.56 | 70.1 | -278 | 3.2 | 0.29 |
| 4/14/2012 | 23:15:31 | 21.13 | 0.531 | 18.7 | 10.789 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/14/2012 | 23:20:31 | 21.16 | 0.531 | 18.7 | 10.796 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/14/2012 | 23:25:31 | 21.17 | 0.531 | 18.7 | 10.796 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/14/2012 | 23:30:31 | 21.18 | 0.531 | 18.7 | 10.796 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/14/2012 | 23:35:32 | 21.17 | 0.531 | 18.7 | 10.795 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/14/2012 | 23:40:31 | 21.16 | 0.531 | 18.7 | 10.794 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/14/2012 | 23:45:31 | 21.19 | 0.531 | 18.7 | 10.794 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/14/2012 | 23:50:31 | 21.21 | 0.531 | 18.7 | 10.794 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/14/2012 | 23:55:31 | 21.14 | 0.531 | 18.7 | 10.792 | 5.56 | 70.1 | -280 | 3.2 | 0.29 |
| 4/15/2012 | 0:00:31 | 21.13 | 0.531 | 18.7 | 10.792 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/15/2012 | 0:05:31 | 21.14 | 0.531 | 18.7 | 10.789 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/15/2012 | 0:10:31 | 21.13 | 0.531 | 18.7 | 10.791 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/15/2012 | 0:15:31 | 21.16 | 0.531 | 18.7 | 10.793 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/15/2012 | 0:20:31 | 21.16 | 0.531 | 18.7 | 10.792 | 5.56 | 70.1 | -278 | 3.2 | 0.29 |
| 4/15/2012 | 0:25:31 | 21.14 | 0.531 | 18.7 | 10.789 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/15/2012 | 0:30:31 | 21.14 | 0.531 | 18.7 | 10.791 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/15/2012 | 0:35:31 | 21.13 | 0.532 | 18.7 | 10.791 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/15/2012 | 0:40:31 | 21.15 | 0.531 | 18.7 | 10.788 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/15/2012 | 0:45:31 | 21.16 | 0.531 | 18.7 | 10.789 | 5.57 | 70.1 | -279 | 3.2 | 0.29 |
| 4/15/2012 | 0:50:31 | 21.18 | 0.531 | 18.7 | 10.789 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/15/2012 | 0:55:32 | 21.2 | 0.531 | 18.7 | 10.791 | 5.56 | 70.1 | -279 | 3.2 | 0.29 |
| 4/15/2012 | 1:00:31 | 21.12 | 0.531 | 18.7 | 10.789 | 5.56 | 70.1 | -280 | 3.3 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 1:05:32 | 21.15 | 0.531 | 18.7 | 10.79 | 5.56 | 70.1 | -281 | 3.2 | 0.29 |
| 4/15/2012 | 1:10:31 | 21.17 | 0.531 | 18.7 | 10.791 | 5.56 | 70.1 | -280 | 3.2 | 0.29 |
| 4/15/2012 | 1:15:31 | 21.18 | 0.531 | 18.7 | 10.789 | 5.56 | 70.1 | -280 | 3.2 | 0.29 |
| 4/15/2012 | 1:20:31 | 21.19 | 0.531 | 18.7 | 10.788 | 5.56 | 70.1 | -281 | 3.2 | 0.29 |
| 4/15/2012 | 1:25:31 | 21.2 | 0.531 | 18.7 | 10.785 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 1:30:31 | 21.2 | 0.531 | 18.69 | 10.776 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 1:35:31 | 21.2 | 0.531 | 18.69 | 10.774 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 1:40:31 | 21.19 | 0.531 | 18.69 | 10.774 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 1:45:31 | 21.18 | 0.531 | 18.69 | 10.774 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 1:50:31 | 21.18 | 0.532 | 18.69 | 10.773 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 1:55:31 | 21.18 | 0.532 | 18.69 | 10.772 | 5.57 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 2:00:31 | 21.18 | 0.531 | 18.69 | 10.772 | 5.57 | 70.1 | -281 | 3.2 | 0.29 |
| 4/15/2012 | 2:05:31 | 21.18 | 0.532 | 18.69 | 10.771 | 5.57 | 70 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 2:10:31 | 21.18 | 0.531 | 18.69 | 10.772 | 5.57 | 70.1 | -281 | 3.2 | 0.29 |
| 4/15/2012 | 2:15:32 | 21.18 | 0.531 | 18.69 | 10.774 | 5.57 | 70 | -281 | 3.2 | 0.29 |
| 4/15/2012 | 2:20:31 | 21.13 | 0.532 | 18.69 | 10.771 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 2:25:31 | 21.15 | 0.532 | 18.69 | 10.771 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 2:30:31 | 21.17 | 0.532 | 18.69 | 10.773 | 5.56 | 70.1 | -281 | 3.2 | 0.29 |
| 4/15/2012 | 2:35:31 | 21.18 | 0.531 | 18.69 | 10.772 | 5.56 | 70.1 | -281 | 3.2 | 0.29 |
| 4/15/2012 | 2:40:31 | 21.15 | 0.532 | 18.69 | 10.77 | 5.56 | 70.1 | -281 | 3.2 | 0.29 |
| 4/15/2012 | 2:45:31 | 21.19 | 0.532 | 18.69 | 10.771 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 2:50:31 | 21.15 | 0.531 | 18.69 | 10.768 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 2:55:32 | 21.16 | 0.532 | 18.69 | 10.771 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 3:00:31 | 21.18 | 0.532 | 18.69 | 10.768 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 3:05:31 | 21.19 | 0.532 | 18.69 | 10.771 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 3:10:31 | 21.12 | 0.532 | 18.69 | 10.764 | 5.56 | 70.1 | -283 | 3.2 | 0.29 |
| 4/15/2012 | 3:15:31 | 21.15 | 0.532 | 18.69 | 10.769 | 5.56 | 70.1 | -283 | 3.2 | 0.29 |
| 4/15/2012 | 3:20:31 | 21.17 | 0.532 | 18.69 | 10.768 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 3:25:31 | 21.16 | 0.532 | 18.69 | 10.769 | 5.57 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 3:30:31 | 21.16 | 0.532 | 18.69 | 10.766 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 3:35:31 | 21.17 | 0.532 | 18.69 | 10.767 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 3:40:31 | 21.19 | 0.532 | 18.69 | 10.765 | 5.56 | 70.1 | -282 | 3.2 | 0.29 |
| 4/15/2012 | 3:45:31 | 21.2 | 0.532 | 18.69 | 10.767 | 5.56 | 70.1 | -283 | 3.2 | 0.29 |
| 4/15/2012 | 3:50:31 | 21.18 | 0.532 | 18.69 | 10.765 | 5.56 | 70.1 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 3:55:31 | 21.18 | 0.533 | 18.69 | 10.766 | 5.56 | 70.1 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 4:00:31 | 21.2 | 0.532 | 18.69 | 10.765 | 5.56 | 70.1 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 4:05:32 | 21.21 | 0.532 | 18.69 | 10.766 | 5.56 | 70.1 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 4:10:31 | 21.22 | 0.532 | 18.69 | 10.766 | 5.56 | 70.1 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 4:15:31 | 21.2 | 0.532 | 18.69 | 10.765 | 5.56 | 70.1 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 4:20:31 | 21.2 | 0.532 | 18.69 | 10.766 | 5.56 | 70.1 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 4:25:31 | 21.2 | 0.532 | 18.69 | 10.766 | 5.56 | 70.1 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 4:30:31 | 21.19 | 0.532 | 18.69 | 10.765 | 5.57 | 70.1 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 4:35:31 | 21.18 | 0.532 | 18.69 | 10.763 | 5.57 | 70 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 4:40:31 | 21.18 | 0.532 | 18.69 | 10.763 | 5.57 | 70 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 4:45:31 | 21.18 | 0.532 | 18.69 | 10.763 | 5.57 | 70 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 4:50:31 | 21.18 | 0.532 | 18.69 | 10.764 | 5.57 | 70 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 4:55:31 | 21.18 | 0.532 | 18.69 | 10.762 | 5.57 | 70 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 5:00:31 | 21.18 | 0.532 | 18.69 | 10.762 | 5.57 | 70 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 5:05:31 | 21.18 | 0.532 | 18.69 | 10.764 | 5.57 | 70 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 5:10:31 | 21.18 | 0.532 | 18.69 | 10.764 | 5.57 | 70.1 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 5:15:31 | 21.18 | 0.532 | 18.69 | 10.761 | 5.57 | 70.1 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 5:20:31 | 21.18 | 0.532 | 18.69 | 10.763 | 5.57 | 70.1 | -284 | 3.2 | 0.29 |
| 4/15/2012 | 5:25:31 | 21.18 | 0.532 | 18.69 | 10.763 | 5.57 | 70 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 5:30:32 | 21.18 | 0.532 | 18.69 | 10.765 | 5.57 | 70 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 5:35:31 | 21.18 | 0.532 | 18.69 | 10.764 | 5.57 | 70.1 | -285 | 3.2 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 5:40:31 | 21.17 | 0.533 | 18.69 | 10.765 | 5.57 | 70 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 5:45:31 | 21.17 | 0.532 | 18.68 | 10.761 | 5.57 | 70 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 5:50:31 | 21.17 | 0.532 | 18.69 | 10.766 | 5.57 | 70 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 5:55:31 | 21.17 | 0.533 | 18.69 | 10.768 | 5.57 | 70 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 6:00:31 | 21.17 | 0.533 | 18.69 | 10.77 | 5.57 | 70.1 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 6:05:31 | 21.16 | 0.532 | 18.69 | 10.769 | 5.57 | 70.1 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 6:10:31 | 21.14 | 0.533 | 18.69 | 10.772 | 5.56 | 70.1 | -286 | 3.2 | 0.29 |
| 4/15/2012 | 6:15:31 | 21.17 | 0.532 | 18.69 | 10.772 | 5.57 | 70.1 | -285 | 3.2 | 0.29 |
| 4/15/2012 | 6:20:31 | 21.19 | 0.532 | 18.69 | 10.77 | 5.56 | 70.1 | -286 | 3.2 | 0.29 |
| 4/15/2012 | 6:25:32 | 21.19 | 0.532 | 18.69 | 10.77 | 5.57 | 70.1 | -286 | 3.2 | 0.29 |
| 4/15/2012 | 6:30:31 | 21.2 | 0.532 | 18.69 | 10.771 | 5.56 | 70.1 | -286 | 3.2 | 0.29 |
| 4/15/2012 | 6:35:31 | 21.2 | 0.532 | 18.69 | 10.773 | 5.56 | 70.1 | -286 | 3.2 | 0.29 |
| 4/15/2012 | 6:40:31 | 21.2 | 0.533 | 18.69 | 10.773 | 5.56 | 70.1 | -287 | 3.2 | 0.29 |
| 4/15/2012 | 6:45:32 | 21.19 | 0.532 | 18.69 | 10.774 | 5.56 | 70.1 | -287 | 3.2 | 0.29 |
| 4/15/2012 | 6:50:31 | 21.17 | 0.532 | 18.69 | 10.773 | 5.56 | 70.1 | -286 | 3.2 | 0.29 |
| 4/15/2012 | 6:55:31 | 21.14 | 0.533 | 18.69 | 10.773 | 5.56 | 70.1 | -287 | 3.2 | 0.29 |
| 4/15/2012 | 7:00:31 | 21.17 | 0.532 | 18.69 | 10.773 | 5.56 | 70.1 | -287 | 3.2 | 0.29 |
| 4/15/2012 | 7:05:31 | 21.19 | 0.532 | 18.69 | 10.772 | 5.56 | 70.1 | -287 | 3.2 | 0.29 |
| 4/15/2012 | 7:10:31 | 21.19 | 0.532 | 18.69 | 10.771 | 5.57 | 70.1 | -288 | 3.2 | 0.29 |
| 4/15/2012 | 7:15:31 | 21.19 | 0.532 | 18.69 | 10.772 | 5.56 | 70.1 | -287 | 3.2 | 0.29 |
| 4/15/2012 | 7:20:31 | 21.15 | 0.533 | 18.69 | 10.772 | 5.56 | 70.1 | -288 | 3.2 | 0.29 |
| 4/15/2012 | 7:25:31 | 21.16 | 0.533 | 18.69 | 10.773 | 5.56 | 70.1 | -288 | 3.2 | 0.29 |
| 4/15/2012 | 7:30:31 | 21.17 | 0.532 | 18.69 | 10.775 | 5.56 | 70.1 | -288 | 3.2 | 0.29 |
| 4/15/2012 | 7:35:31 | 21.15 | 0.533 | 18.69 | 10.773 | 5.56 | 70.1 | -289 | 3.2 | 0.29 |
| 4/15/2012 | 7:40:31 | 21.16 | 0.533 | 18.69 | 10.773 | 5.56 | 70.1 | -289 | 3.2 | 0.29 |
| 4/15/2012 | 7:45:31 | 21.18 | 0.532 | 18.69 | 10.773 | 5.56 | 70.1 | -289 | 3.2 | 0.29 |
| 4/15/2012 | 7:50:31 | 21.2 | 0.532 | 18.69 | 10.774 | 5.56 | 70.1 | -289 | 3.2 | 0.29 |
| 4/15/2012 | 7:55:31 | 21.18 | 0.532 | 18.69 | 10.775 | 5.56 | 70.1 | -290 | 3.2 | 0.29 |
| 4/15/2012 | 8:00:31 | 21.19 | 0.532 | 18.69 | 10.775 | 5.56 | 70.1 | -290 | 3.2 | 0.29 |
| 4/15/2012 | 8:05:31 | 21.14 | 0.532 | 18.69 | 10.774 | 5.56 | 70.1 | -291 | 3.2 | 0.29 |
| 4/15/2012 | 8:10:31 | 21.16 | 0.532 | 18.69 | 10.774 | 5.56 | 70.1 | -290 | 3.2 | 0.29 |
| 4/15/2012 | 8:15:31 | 21.18 | 0.532 | 18.69 | 10.773 | 5.56 | 70.1 | -290 | 3.2 | 0.29 |
| 4/15/2012 | 8:20:31 | 21.19 | 0.532 | 18.69 | 10.774 | 5.56 | 70.1 | -290 | 3.2 | 0.29 |
| 4/15/2012 | 8:25:31 | 21.2 | 0.532 | 18.69 | 10.772 | 5.56 | 70.1 | -291 | 3.2 | 0.29 |
| 4/15/2012 | 8:30:31 | 21.2 | 0.532 | 18.69 | 10.772 | 5.56 | 70.1 | -292 | 3.2 | 0.29 |
| 4/15/2012 | 8:35:31 | 21.2 | 0.532 | 18.69 | 10.768 | 5.56 | 70.1 | -292 | 3.2 | 0.29 |
| 4/15/2012 | 8:40:31 | 21.2 | 0.532 | 18.69 | 10.769 | 5.56 | 70.1 | -292 | 3.2 | 0.29 |
| 4/15/2012 | 8:45:31 | 21.19 | 0.532 | 18.69 | 10.769 | 5.56 | 70.1 | -294 | 3.2 | 0.29 |
| 4/15/2012 | 8:50:31 | 21.17 | 0.532 | 18.69 | 10.771 | 5.56 | 70.1 | -295 | 3.2 | 0.29 |
| 4/15/2012 | 8:55:31 | 21.16 | 0.532 | 18.69 | 10.77 | 5.56 | 70.1 | -295 | 3.2 | 0.29 |
| 4/15/2012 | 9:00:31 | 21.16 | 0.532 | 18.69 | 10.77 | 5.56 | 70.1 | -297 | 3.2 | 0.29 |
| 4/15/2012 | 9:05:31 | 21.16 | 0.532 | 18.69 | 10.769 | 5.56 | 70.1 | -297 | 3.2 | 0.29 |
| 4/15/2012 | 9:10:31 | 21.19 | 0.532 | 18.69 | 10.766 | 5.56 | 70.1 | -299 | 3.2 | 0.29 |
| 4/15/2012 | 9:15:31 | 21.2 | 0.532 | 18.69 | 10.766 | 5.56 | 70.1 | -302 | 3.2 | 0.29 |
| 4/15/2012 | 9:20:31 | 21.21 | 0.531 | 18.69 | 10.767 | 5.56 | 70.1 | -304 | 3.2 | 0.29 |
| 4/15/2012 | 9:25:31 | 21.2 | 0.531 | 18.69 | 10.766 | 5.56 | 70.1 | -305 | 3.2 | 0.29 |
| 4/15/2012 | 9:30:31 | 21.2 | 0.531 | 18.69 | 10.764 | 5.56 | 70.1 | -307 | 3.2 | 0.29 |
| 4/15/2012 | 9:35:31 | 21.2 | 0.531 | 18.69 | 10.765 | 5.56 | 70.1 | -309 | 3.2 | 0.29 |
| 4/15/2012 | 9:40:31 | 21.2 | 0.531 | 18.69 | 10.766 | 5.56 | 70.1 | -311 | 3.2 | 0.29 |
| 4/15/2012 | 9:45:31 | 21.2 | 0.532 | 18.69 | 10.764 | 5.56 | 70.1 | -312 | 3.2 | 0.29 |
| 4/15/2012 | 9:50:31 | 21.19 | 0.532 | 18.69 | 10.767 | 5.56 | 70.1 | -313 | 3.2 | 0.29 |
| 4/15/2012 | 9:55:31 | 21.18 | 0.532 | 18.69 | 10.766 | 5.56 | 70.1 | -314 | 3.2 | 0.29 |
| 4/15/2012 | 10:00:31 | 21.18 | 0.532 | 18.69 | 10.767 | 5.56 | 70.1 | -314 | 3.2 | 0.29 |
| 4/15/2012 | 10:05:31 | 21.19 | 0.532 | 18.69 | 10.767 | 5.56 | 70.1 | -314 | 3.2 | 0.29 |
| 4/15/2012 | 10:10:31 | 21.19 | 0.532 | 18.69 | 10.769 | 5.56 | 70.1 | -314 | 3.2 | 0.29 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 10:15:31 | 21.19 | 0.532 | 18.69 | 10.768 | 5.56 | 70.1 | -315 | 3.2 | 0.29 |
| 4/15/2012 | 10:20:31 | 21.19 | 0.532 | 18.69 | 10.768 | 5.56 | 70.1 | -316 | 3.2 | 0.29 |
| 4/15/2012 | 10:25:31 | 21.18 | 0.532 | 18.69 | 10.767 | 5.56 | 70.1 | -317 | 3.2 | 0.29 |
| 4/15/2012 | 10:30:31 | 21.18 | 0.532 | 18.69 | 10.768 | 5.56 | 70.1 | -318 | 3.2 | 0.29 |
| 4/15/2012 | 10:35:31 | 21.18 | 0.532 | 18.69 | 10.768 | 5.56 | 70.1 | -318 | 3.2 | 0.29 |
| 4/15/2012 | 10:40:31 | 21.18 | 0.532 | 18.69 | 10.765 | 5.56 | 70.1 | -319 | 3.2 | 0.29 |
| 4/15/2012 | 10:45:31 | 21.18 | 0.532 | 18.69 | 10.764 | 5.56 | 70.1 | -319 | 3.2 | 0.29 |
| 4/15/2012 | 10:50:31 | 21.18 | 0.532 | 18.69 | 10.764 | 5.56 | 70.1 | -318 | 3.2 | 0.29 |
| 4/15/2012 | 10:55:31 | 21.18 | 0.532 | 18.68 | 10.758 | 5.56 | 70.1 | -317 | 3.2 | 0.29 |
| 4/15/2012 | 11:00:31 | 21.18 | 0.532 | 18.69 | 10.761 | 5.56 | 70.1 | -318 | 3.2 | 0.29 |
| 4/15/2012 | 11:05:31 | 21.16 | 0.531 | 18.68 | 10.76 | 5.56 | 70.2 | -319 | 3.2 | 0.29 |
| 4/15/2012 | 11:10:31 | 21.17 | 0.532 | 18.69 | 10.762 | 5.56 | 70.2 | -320 | 3.2 | 0.29 |
| 4/15/2012 | 11:15:31 | 21.17 | 0.532 | 18.69 | 10.765 | 5.56 | 70.2 | -321 | 3.2 | 0.29 |
| 4/15/2012 | 11:20:31 | 21.17 | 0.532 | 18.69 | 10.767 | 5.56 | 70.2 | -321 | 3.2 | 0.29 |
| 4/15/2012 | 11:25:32 | 21.17 | 0.531 | 18.69 | 10.767 | 5.56 | 70.2 | -322 | 3.2 | 0.29 |
| 4/15/2012 | 11:30:31 | 21.19 | 0.531 | 18.69 | 10.764 | 5.56 | 70.2 | -323 | 3.2 | 0.29 |
| 4/15/2012 | 11:35:31 | 21.2 | 0.53 | 18.69 | 10.764 | 5.56 | 70.2 | -323 | 3.2 | 0.29 |
| 4/15/2012 | 11:40:31 | 21.2 | 0.53 | 18.69 | 10.762 | 5.56 | 70.2 | -323 | 3.2 | 0.29 |
| 4/15/2012 | 11:45:31 | 21.19 | 0.531 | 18.69 | 10.761 | 5.56 | 70.2 | -324 | 3.2 | 0.29 |
| 4/15/2012 | 11:50:31 | 21.19 | 0.531 | 18.69 | 10.763 | 5.56 | 70.2 | -324 | 3.2 | 0.29 |
| 4/15/2012 | 11:55:31 | 21.2 | 0.531 | 18.69 | 10.763 | 5.56 | 70.2 | -324 | 3.2 | 0.29 |
| 4/15/2012 | 12:00:31 | 21.2 | 0.53 | 18.68 | 10.761 | 5.56 | 70.2 | -324 | 3.2 | 0.29 |
| 4/15/2012 | 12:05:31 | 21.2 | 0.53 | 18.69 | 10.762 | 5.56 | 70.2 | -325 | 3.2 | 0.29 |
| 4/15/2012 | 12:10:31 | 21.2 | 0.53 | 18.69 | 10.762 | 5.56 | 70.2 | -325 | 3.2 | 0.29 |
| 4/15/2012 | 12:15:31 | 21.19 | 0.531 | 18.69 | 10.762 | 5.56 | 70.2 | -325 | 3.2 | 0.29 |
| 4/15/2012 | 12:20:31 | 21.2 | 0.531 | 18.68 | 10.76 | 5.56 | 70.2 | -324 | 3.2 | 0.29 |
| 4/15/2012 | 12:25:31 | 21.19 | 0.531 | 18.68 | 10.76 | 5.56 | 70.2 | -324 | 3.2 | 0.29 |
| 4/15/2012 | 12:30:31 | 21.19 | 0.531 | 18.69 | 10.762 | 5.56 | 70.2 | -323 | 3.2 | 0.29 |
| 4/15/2012 | 12:35:31 | 21.19 | 0.531 | 18.69 | 10.763 | 5.56 | 70.2 | -324 | 3.2 | 0.29 |
| 4/15/2012 | 12:40:31 | 21.19 | 0.531 | 18.69 | 10.763 | 5.56 | 70.2 | -324 | 3.2 | 0.29 |
| 4/15/2012 | 12:45:31 | 21.19 | 0.531 | 18.69 | 10.765 | 5.56 | 70.2 | -324 | 3.2 | 0.29 |
| 4/15/2012 | 12:50:31 | 21.19 | 0.531 | 18.68 | 10.761 | 5.56 | 70.2 | -325 | 3.2 | 0.29 |
| 4/15/2012 | 12:55:31 | 21.18 | 0.531 | 18.68 | 10.761 | 5.56 | 70.2 | -326 | 3.2 | 0.29 |
| 4/15/2012 | 13:00:31 | 21.13 | 0.53 | 18.68 | 10.752 | 5.56 | 70.3 | -326 | 3.2 | 0.29 |
| 4/15/2012 | 13:05:31 | 21.15 | 0.531 | 18.68 | 10.757 | 5.56 | 70.3 | -327 | 3.2 | 0.29 |
| 4/15/2012 | 13:10:31 | 21.16 | 0.53 | 18.68 | 10.758 | 5.56 | 70.3 | -327 | 3.2 | 0.29 |
| 4/15/2012 | 13:15:31 | 21.17 | 0.531 | 18.68 | 10.759 | 5.56 | 70.3 | -327 | 3.2 | 0.29 |
| 4/15/2012 | 13:20:31 | 21.17 | 0.531 | 18.68 | 10.759 | 5.56 | 70.3 | -327 | 3.2 | 0.29 |
| 4/15/2012 | 13:25:31 | 21.17 | 0.531 | 18.68 | 10.758 | 5.56 | 70.3 | -327 | 3.2 | 0.29 |
| 4/15/2012 | 13:30:31 | 21.2 | 0.53 | 18.68 | 10.758 | 5.56 | 70.3 | -327 | 3.2 | 0.29 |
| 4/15/2012 | 13:35:31 | 21.21 | 0.53 | 18.68 | 10.757 | 5.56 | 70.2 | -328 | 3.2 | 0.29 |
| 4/15/2012 | 13:40:32 | 21.19 | 0.53 | 18.68 | 10.761 | 5.56 | 70.3 | -328 | 3.2 | 0.29 |
| 4/15/2012 | 13:45:31 | 21.19 | 0.531 | 18.68 | 10.76 | 5.56 | 70.3 | -328 | 3.2 | 0.29 |
| 4/15/2012 | 13:50:31 | 21.2 | 0.53 | 18.68 | 10.761 | 5.56 | 70.3 | -329 | 3.2 | 0.29 |
| 4/15/2012 | 13:55:31 | 21.16 | 0.529 | 18.68 | 10.761 | 5.56 | 70.3 | -329 | 3.2 | 0.29 |
| 4/15/2012 | 14:00:31 | 21.15 | 0.53 | 18.68 | 10.759 | 5.56 | 70.3 | -329 | 3.2 | 0.29 |
| 4/15/2012 | 14:05:31 | 21.17 | 0.531 | 18.68 | 10.759 | 5.56 | 70.3 | -329 | 3.2 | 0.29 |
| 4/15/2012 | 14:10:31 | 21.19 | 0.53 | 18.68 | 10.757 | 5.56 | 70.3 | -329 | 3.2 | 0.29 |
| 4/15/2012 | 14:15:31 | 21.2 | 0.53 | 18.68 | 10.754 | 5.56 | 70.3 | -330 | 3.2 | 0.29 |
| 4/15/2012 | 14:20:31 | 21.2 | 0.53 | 18.68 | 10.754 | 5.56 | 70.3 | -330 | 3.2 | 0.29 |
| 4/15/2012 | 14:25:31 | 21.2 | 0.53 | 18.68 | 10.752 | 5.56 | 70.3 | -329 | 3.2 | 0.29 |
| 4/15/2012 | 14:30:31 | 21.2 | 0.531 | 18.68 | 10.752 | 5.56 | 70.3 | -329 | 3.2 | 0.29 |
| 4/15/2012 | 14:35:31 | 21.19 | 0.531 | 18.68 | 10.75 | 5.56 | 70.3 | -329 | 3.2 | 0.29 |
| 4/15/2012 | 14:40:31 | 21.19 | 0.531 | 18.68 | 10.747 | 5.56 | 70.3 | -330 | 3.2 | 0.29 |
| 4/15/2012 | 14:45:31 | 21.19 | 0.531 | 18.68 | 10.75 | 5.56 | 70.3 | -331 | 3.2 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 14:50:31 | 21.18 | 0.531 | 18.68 | 10.75 | 5.56 | 70.3 | -331 | 3.2 | 0.29 |
| 4/15/2012 | 14:55:31 | 21.19 | 0.531 | 18.68 | 10.751 | 5.56 | 70.3 | -331 | 3.2 | 0.29 |
| 4/15/2012 | 15:00:32 | 21.15 | 0.53 | 18.68 | 10.746 | 5.56 | 70.3 | -330 | 3.2 | 0.29 |
| 4/15/2012 | 15:05:32 | 21.15 | 0.53 | 18.68 | 10.748 | 5.56 | 70.3 | -330 | 3.2 | 0.29 |
| 4/15/2012 | 15:10:31 | 21.17 | 0.53 | 18.68 | 10.749 | 5.56 | 70.3 | -330 | 3.2 | 0.29 |
| 4/15/2012 | 15:15:31 | 21.19 | 0.53 | 18.68 | 10.75 | 5.56 | 70.3 | -331 | 3.2 | 0.29 |
| 4/15/2012 | 15:20:31 | 21.17 | 0.53 | 18.68 | 10.745 | 5.56 | 70.3 | -331 | 3.2 | 0.29 |
| 4/15/2012 | 15:25:31 | 21.12 | 0.53 | 18.67 | 10.737 | 5.56 | 70.4 | -330 | 3.2 | 0.29 |
| 4/15/2012 | 15:30:31 | 21.15 | 0.53 | 18.68 | 10.744 | 5.56 | 70.3 | -331 | 3.2 | 0.29 |
| 4/15/2012 | 15:35:31 | 21.2 | 0.529 | 18.68 | 10.741 | 5.56 | 70.3 | -331 | 3.2 | 0.29 |
| 4/15/2012 | 15:40:31 | 21.16 | 0.53 | 18.68 | 10.743 | 5.56 | 70.3 | -331 | 3.2 | 0.29 |
| 4/15/2012 | 15:45:31 | 21.16 | 0.53 | 18.68 | 10.744 | 5.56 | 70.4 | -331 | 3.2 | 0.29 |
| 4/15/2012 | 15:50:31 | 21.19 | 0.53 | 18.68 | 10.742 | 5.56 | 70.3 | -331 | 3.2 | 0.29 |
| 4/15/2012 | 15:55:31 | 21.21 | 0.529 | 18.68 | 10.74 | 5.56 | 70.3 | -331 | 3.2 | 0.29 |
| 4/15/2012 | 16:00:31 | 21.2 | 0.53 | 18.68 | 10.739 | 5.56 | 70.3 | -332 | 3.2 | 0.29 |
| 4/15/2012 | 16:05:32 | 21.15 | 0.529 | 18.67 | 10.738 | 5.56 | 70.3 | -332 | 3.2 | 0.29 |
| 4/15/2012 | 16:10:31 | 21.2 | 0.529 | 18.67 | 10.735 | 5.56 | 70.4 | -331 | 3.2 | 0.29 |
| 4/15/2012 | 16:15:31 | 21.2 | 0.53 | 18.67 | 10.737 | 5.56 | 70.3 | -332 | 3.2 | 0.29 |
| 4/15/2012 | 16:20:31 | 21.17 | 0.53 | 18.67 | 10.738 | 5.56 | 70.3 | -333 | 3.2 | 0.29 |
| 4/15/2012 | 16:25:31 | 21.21 | 0.53 | 18.67 | 10.737 | 5.56 | 70.3 | -333 | 3.2 | 0.29 |
| 4/15/2012 | 16:30:31 | 21.21 | 0.529 | 18.67 | 10.734 | 5.56 | 70.4 | -333 | 3.2 | 0.29 |
| 4/15/2012 | 16:35:31 | 21.2 | 0.53 | 18.67 | 10.734 | 5.56 | 70.3 | -333 | 3.2 | 0.29 |
| 4/15/2012 | 16:40:31 | 21.21 | 0.529 | 18.67 | 10.735 | 5.56 | 70.3 | -333 | 3.2 | 0.29 |
| 4/15/2012 | 16:45:31 | 21.22 | 0.529 | 18.67 | 10.732 | 5.56 | 70.4 | -333 | 3.2 | 0.29 |
| 4/15/2012 | 16:50:31 | 21.22 | 0.529 | 18.67 | 10.732 | 5.56 | 70.3 | -333 | 3.2 | 0.29 |
| 4/15/2012 | 16:55:31 | 21.21 | 0.528 | 18.67 | 10.731 | 5.56 | 70.3 | -334 | 3.2 | 0.29 |
| 4/15/2012 | 17:00:31 | 21.2 | 0.529 | 18.67 | 10.734 | 5.56 | 70.4 | -334 | 3.2 | 0.29 |
| 4/15/2012 | 17:05:31 | 21.2 | 0.53 | 18.67 | 10.733 | 5.56 | 70.3 | -334 | 3.2 | 0.29 |
| 4/15/2012 | 17:10:31 | 21.19 | 0.53 | 18.67 | 10.732 | 5.56 | 70.3 | -334 | 3.2 | 0.29 |
| 4/15/2012 | 17:15:31 | 21.19 | 0.53 | 18.67 | 10.731 | 5.56 | 70.3 | -334 | 3.2 | 0.29 |
| 4/15/2012 | 17:20:31 | 21.19 | 0.53 | 18.67 | 10.731 | 5.56 | 70.3 | -334 | 3.2 | 0.29 |
| 4/15/2012 | 17:25:31 | 21.18 | 0.529 | 18.67 | 10.73 | 5.56 | 70.4 | -333 | 3.2 | 0.29 |
| 4/15/2012 | 17:30:31 | 21.16 | 0.529 | 18.67 | 10.727 | 5.56 | 70.4 | -333 | 3.2 | 0.29 |
| 4/15/2012 | 17:35:31 | 21.18 | 0.529 | 18.67 | 10.732 | 5.56 | 70.4 | -333 | 3.2 | 0.29 |
| 4/15/2012 | 17:40:31 | 21.19 | 0.529 | 18.67 | 10.73 | 5.56 | 70.4 | -334 | 3.2 | 0.29 |
| 4/15/2012 | 17:45:31 | 21.19 | 0.529 | 18.67 | 10.73 | 5.56 | 70.4 | -334 | 3.2 | 0.29 |
| 4/15/2012 | 17:50:31 | 21.2 | 0.529 | 18.67 | 10.727 | 5.56 | 70.4 | -335 | 3.2 | 0.29 |
| 4/15/2012 | 17:55:31 | 21.2 | 0.529 | 18.67 | 10.726 | 5.56 | 70.4 | -335 | 3.2 | 0.29 |
| 4/15/2012 | 18:00:31 | 21.2 | 0.529 | 18.67 | 10.728 | 5.56 | 70.4 | -335 | 3.2 | 0.29 |
| 4/15/2012 | 18:05:31 | 21.2 | 0.529 | 18.67 | 10.725 | 5.56 | 70.4 | -335 | 3.2 | 0.29 |
| 4/15/2012 | 18:10:31 | 21.19 | 0.529 | 18.67 | 10.725 | 5.56 | 70.4 | -335 | 3.2 | 0.29 |
| 4/15/2012 | 18:15:31 | 21.19 | 0.53 | 18.67 | 10.729 | 5.56 | 70.4 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 18:20:31 | 21.16 | 0.529 | 18.67 | 10.726 | 5.56 | 70.4 | -335 | 3.2 | 0.29 |
| 4/15/2012 | 18:25:31 | 21.17 | 0.529 | 18.67 | 10.728 | 5.56 | 70.4 | -335 | 3.2 | 0.29 |
| 4/15/2012 | 18:30:31 | 21.19 | 0.529 | 18.67 | 10.728 | 5.56 | 70.4 | -335 | 3.2 | 0.29 |
| 4/15/2012 | 18:35:31 | 21.19 | 0.529 | 18.67 | 10.73 | 5.56 | 70.4 | -335 | 3.2 | 0.29 |
| 4/15/2012 | 18:40:31 | 21.19 | 0.529 | 18.67 | 10.73 | 5.56 | 70.4 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 18:45:31 | 21.18 | 0.529 | 18.67 | 10.729 | 5.56 | 70.4 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 18:50:31 | 21.18 | 0.529 | 18.67 | 10.73 | 5.56 | 70.4 | -335 | 3.2 | 0.29 |
| 4/15/2012 | 18:55:31 | 21.21 | 0.528 | 18.67 | 10.731 | 5.56 | 70.4 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 19:00:31 | 21.21 | 0.528 | 18.67 | 10.729 | 5.56 | 70.4 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 19:05:31 | 21.19 | 0.529 | 18.67 | 10.73 | 5.56 | 70.4 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 19:10:31 | 21.19 | 0.529 | 18.67 | 10.729 | 5.56 | 70.4 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 19:15:31 | 21.18 | 0.529 | 18.67 | 10.725 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 19:20:31 | 21.2 | 0.528 | 18.67 | 10.727 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 19:25:31 | 21.18 | 0.529 | 18.67 | 10.725 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 19:30:31 | 21.17 | 0.528 | 18.67 | 10.724 | 5.56 | 70.4 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 19:35:31 | 21.16 | 0.528 | 18.67 | 10.722 | 5.56 | 70.4 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 19:40:31 | 21.18 | 0.528 | 18.67 | 10.724 | 5.56 | 70.4 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 19:45:31 | 21.2 | 0.528 | 18.67 | 10.724 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 19:50:31 | 21.2 | 0.528 | 18.67 | 10.727 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 19:55:31 | 21.21 | 0.528 | 18.67 | 10.734 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 20:00:31 | 21.19 | 0.528 | 18.67 | 10.727 | 5.56 | 70.5 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 20:05:31 | 21.18 | 0.528 | 18.67 | 10.727 | 5.56 | 70.5 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 20:10:31 | 21.18 | 0.529 | 18.67 | 10.727 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 20:15:31 | 21.17 | 0.529 | 18.67 | 10.728 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 20:20:31 | 21.18 | 0.528 | 18.67 | 10.726 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 20:25:31 | 21.16 | 0.528 | 18.66 | 10.714 | 5.56 | 70.5 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 20:30:31 | 21.17 | 0.528 | 18.67 | 10.724 | 5.56 | 70.5 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 20:35:31 | 21.17 | 0.528 | 18.67 | 10.724 | 5.56 | 70.5 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 20:40:31 | 21.18 | 0.528 | 18.67 | 10.723 | 5.56 | 70.5 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 20:45:31 | 21.18 | 0.528 | 18.67 | 10.722 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 20:50:31 | 21.16 | 0.527 | 18.67 | 10.723 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 20:55:31 | 21.14 | 0.528 | 18.67 | 10.724 | 5.56 | 70.5 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 21:00:31 | 21.18 | 0.527 | 18.67 | 10.723 | 5.56 | 70.4 | -336 | 3.2 | 0.29 |
| 4/15/2012 | 21:05:31 | 21.18 | 0.527 | 18.67 | 10.722 | 5.56 | 70.4 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 21:10:31 | 21.19 | 0.527 | 18.67 | 10.721 | 5.56 | 70.4 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 21:15:31 | 21.2 | 0.528 | 18.67 | 10.722 | 5.56 | 70.4 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 21:20:32 | 21.21 | 0.528 | 18.67 | 10.72 | 5.56 | 70.4 | -339 | 3.2 | 0.29 |
| 4/15/2012 | 21:25:31 | 21.21 | 0.528 | 18.67 | 10.723 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 21:30:31 | 21.22 | 0.527 | 18.67 | 10.721 | 5.56 | 70.4 | -339 | 3.2 | 0.29 |
| 4/15/2012 | 21:35:31 | 21.21 | 0.526 | 18.67 | 10.722 | 5.56 | 70.5 | -339 | 3.2 | 0.29 |
| 4/15/2012 | 21:40:31 | 21.2 | 0.527 | 18.67 | 10.72 | 5.56 | 70.5 | -339 | 3.2 | 0.29 |
| 4/15/2012 | 21:45:31 | 21.2 | 0.528 | 18.67 | 10.72 | 5.56 | 70.5 | -339 | 3.2 | 0.29 |
| 4/15/2012 | 21:50:31 | 21.19 | 0.528 | 18.67 | 10.719 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 21:55:31 | 21.18 | 0.528 | 18.67 | 10.719 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:00:31 | 21.19 | 0.528 | 18.67 | 10.716 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:05:32 | 21.19 | 0.528 | 18.67 | 10.717 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:10:31 | 21.19 | 0.528 | 18.67 | 10.715 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:15:31 | 21.19 | 0.528 | 18.66 | 10.714 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:20:31 | 21.19 | 0.528 | 18.67 | 10.716 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:25:31 | 21.19 | 0.528 | 18.66 | 10.713 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:30:31 | 21.18 | 0.528 | 18.66 | 10.714 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:35:31 | 21.18 | 0.528 | 18.66 | 10.714 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:40:31 | 21.19 | 0.528 | 18.66 | 10.713 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:45:31 | 21.19 | 0.528 | 18.66 | 10.714 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:50:31 | 21.19 | 0.528 | 18.66 | 10.713 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 22:55:31 | 21.19 | 0.528 | 18.66 | 10.712 | 5.56 | 70.5 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 23:00:31 | 21.19 | 0.528 | 18.66 | 10.709 | 5.56 | 70.5 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 23:05:31 | 21.19 | 0.528 | 18.66 | 10.709 | 5.56 | 70.6 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 23:10:31 | 21.18 | 0.528 | 18.66 | 10.709 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 23:15:31 | 21.19 | 0.528 | 18.66 | 10.702 | 5.56 | 70.5 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 23:20:31 | 21.19 | 0.528 | 18.66 | 10.705 | 5.56 | 70.6 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 23:25:31 | 21.18 | 0.528 | 18.66 | 10.705 | 5.56 | 70.6 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 23:30:31 | 21.18 | 0.528 | 18.66 | 10.704 | 5.56 | 70.6 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 23:35:31 | 21.18 | 0.528 | 18.66 | 10.703 | 5.56 | 70.6 | -337 | 3.2 | 0.29 |
| 4/15/2012 | 23:40:31 | 21.19 | 0.528 | 18.66 | 10.703 | 5.56 | 70.6 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 23:45:31 | 21.19 | 0.528 | 18.66 | 10.701 | 5.56 | 70.6 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 23:50:31 | 21.18 | 0.528 | 18.66 | 10.701 | 5.56 | 70.6 | -338 | 3.2 | 0.29 |
| 4/15/2012 | 23:55:31 | 21.18 | 0.528 | 18.66 | 10.701 | 5.56 | 70.6 | -338 | 3.2 | 0.29 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 0:00:31 | 21.18 | 0.528 | 18.66 | 10.703 | 5.56 | 70.6 | -338 | 3.2 | 0.29 |
| 4/16/2012 | 0:05:31 | 21.18 | 0.528 | 18.66 | 10.702 | 5.56 | 70.6 | -339 | 3.2 | 0.29 |
| 4/16/2012 | 0:10:31 | 21.17 | 0.526 | 18.66 | 10.693 | 5.56 | 70.6 | -338 | 3.2 | 0.29 |
| 4/16/2012 | 0:15:31 | 21.14 | 0.527 | 18.66 | 10.698 | 5.56 | 70.6 | -338 | 3.2 | 0.29 |
| 4/16/2012 | 0:20:31 | 21.16 | 0.527 | 18.66 | 10.699 | 5.56 | 70.6 | -340 | 3.2 | 0.29 |
| 4/16/2012 | 0:25:31 | 21.2 | 0.527 | 18.66 | 10.698 | 5.56 | 70.6 | -340 | 3.2 | 0.29 |
| 4/16/2012 | 0:30:31 | 21.19 | 0.527 | 18.66 | 10.698 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 0:35:31 | 21.2 | 0.527 | 18.66 | 10.697 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 0:40:31 | 21.16 | 0.526 | 18.66 | 10.694 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 0:45:31 | 21.15 | 0.527 | 18.66 | 10.695 | 5.56 | 70.6 | -340 | 3.2 | 0.29 |
| 4/16/2012 | 0:50:31 | 21.14 | 0.527 | 18.65 | 10.69 | 5.56 | 70.6 | -340 | 3.2 | 0.29 |
| 4/16/2012 | 0:55:31 | 21.17 | 0.527 | 18.65 | 10.692 | 5.56 | 70.6 | -340 | 3.2 | 0.29 |
| 4/16/2012 | 1:00:31 | 21.18 | 0.527 | 18.66 | 10.695 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 1:05:31 | 21.2 | 0.527 | 18.66 | 10.694 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 1:10:31 | 21.2 | 0.527 | 18.66 | 10.693 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 1:15:31 | 21.19 | 0.526 | 18.65 | 10.689 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 1:20:31 | 21.17 | 0.527 | 18.66 | 10.692 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 1:25:31 | 21.17 | 0.527 | 18.65 | 10.69 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 1:30:31 | 21.19 | 0.526 | 18.65 | 10.691 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 1:35:31 | 21.17 | 0.526 | 18.65 | 10.689 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 1:40:31 | 21.19 | 0.527 | 18.65 | 10.689 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 1:45:31 | 21.21 | 0.527 | 18.65 | 10.688 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 1:50:31 | 21.22 | 0.527 | 18.65 | 10.689 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 1:55:31 | 21.18 | 0.527 | 18.65 | 10.688 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 2:00:31 | 21.19 | 0.527 | 18.65 | 10.684 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 2:05:31 | 21.2 | 0.527 | 18.65 | 10.686 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 2:10:31 | 21.21 | 0.527 | 18.65 | 10.683 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 2:15:31 | 21.21 | 0.527 | 18.65 | 10.684 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 2:20:31 | 21.22 | 0.527 | 18.65 | 10.684 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 2:25:31 | 21.21 | 0.527 | 18.65 | 10.683 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 2:30:31 | 21.2 | 0.527 | 18.65 | 10.683 | 5.56 | 70.6 | -342 | 3.2 | 0.28 |
| 4/16/2012 | 2:35:31 | 21.21 | 0.528 | 18.65 | 10.682 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 2:40:31 | 21.12 | 0.527 | 18.65 | 10.682 | 5.55 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 2:45:31 | 21.15 | 0.526 | 18.65 | 10.681 | 5.55 | 70.7 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 2:50:31 | 21.16 | 0.526 | 18.65 | 10.677 | 5.55 | 70.7 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 2:55:31 | 21.13 | 0.527 | 18.65 | 10.679 | 5.55 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 3:00:31 | 21.18 | 0.527 | 18.65 | 10.676 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 3:05:31 | 21.19 | 0.527 | 18.65 | 10.676 | 5.55 | 70.7 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 3:10:31 | 21.17 | 0.526 | 18.65 | 10.676 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 3:15:31 | 21.17 | 0.527 | 18.65 | 10.675 | 5.55 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 3:20:31 | 21.19 | 0.526 | 18.65 | 10.67 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 3:25:31 | 21.2 | 0.526 | 18.64 | 10.667 | 5.56 | 70.6 | -341 | 3.2 | 0.29 |
| 4/16/2012 | 3:30:31 | 21.21 | 0.526 | 18.65 | 10.669 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 3:35:31 | 21.21 | 0.526 | 18.65 | 10.669 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 3:40:31 | 21.21 | 0.526 | 18.65 | 10.669 | 5.56 | 70.6 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 3:45:31 | 21.21 | 0.526 | 18.65 | 10.669 | 5.56 | 70.6 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 3:50:31 | 21.17 | 0.526 | 18.64 | 10.667 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 3:55:31 | 21.18 | 0.527 | 18.65 | 10.669 | 5.55 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 4:00:31 | 21.18 | 0.527 | 18.64 | 10.667 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 4:05:31 | 21.18 | 0.527 | 18.64 | 10.666 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 4:10:31 | 21.18 | 0.527 | 18.64 | 10.668 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 4:15:31 | 21.18 | 0.527 | 18.64 | 10.667 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 4:20:31 | 21.21 | 0.527 | 18.64 | 10.666 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 4:25:31 | 21.21 | 0.526 | 18.64 | 10.665 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 4:30:31 | 21.2 | 0.526 | 18.64 | 10.664 | 5.56 | 70.6 | -343 | 3.2 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 4:35:31 | 21.2 | 0.527 | 18.64 | 10.667 | 5.56 | 70.6 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 4:40:31 | 21.18 | 0.525 | 18.64 | 10.665 | 5.56 | 70.6 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 4:45:31 | 21.15 | 0.526 | 18.64 | 10.665 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 4:50:31 | 21.18 | 0.527 | 18.64 | 10.665 | 5.55 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 4:55:31 | 21.19 | 0.527 | 18.64 | 10.664 | 5.56 | 70.6 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 5:00:31 | 21.2 | 0.527 | 18.64 | 10.665 | 5.56 | 70.6 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 5:05:31 | 21.2 | 0.527 | 18.64 | 10.666 | 5.56 | 70.6 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 5:10:31 | 21.2 | 0.527 | 18.64 | 10.667 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 5:15:31 | 21.2 | 0.527 | 18.64 | 10.667 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 5:20:31 | 21.19 | 0.527 | 18.64 | 10.665 | 5.56 | 70.6 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 5:25:31 | 21.19 | 0.527 | 18.64 | 10.665 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 5:30:31 | 21.18 | 0.527 | 18.64 | 10.665 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 5:35:31 | 21.18 | 0.527 | 18.64 | 10.663 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 5:40:31 | 21.19 | 0.527 | 18.64 | 10.665 | 5.55 | 70.6 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 5:45:31 | 21.19 | 0.527 | 18.64 | 10.666 | 5.56 | 70.6 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 5:50:31 | 21.19 | 0.527 | 18.64 | 10.665 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 5:55:31 | 21.19 | 0.527 | 18.64 | 10.663 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:00:31 | 21.19 | 0.527 | 18.64 | 10.664 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:05:31 | 21.19 | 0.527 | 18.64 | 10.663 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:10:31 | 21.19 | 0.527 | 18.64 | 10.663 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:15:31 | 21.19 | 0.526 | 18.64 | 10.662 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:20:31 | 21.19 | 0.527 | 18.64 | 10.662 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:25:31 | 21.19 | 0.527 | 18.64 | 10.668 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:30:31 | 21.19 | 0.526 | 18.65 | 10.671 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:35:31 | 21.19 | 0.526 | 18.65 | 10.668 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:40:31 | 21.19 | 0.526 | 18.65 | 10.671 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:45:31 | 21.19 | 0.526 | 18.65 | 10.672 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:50:31 | 21.19 | 0.526 | 18.65 | 10.672 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 6:55:31 | 21.18 | 0.527 | 18.65 | 10.677 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 7:00:31 | 21.18 | 0.526 | 18.65 | 10.677 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 7:05:31 | 21.18 | 0.526 | 18.65 | 10.678 | 5.55 | 70.7 | -342 | 3.2 | 0.29 |
| 4/16/2012 | 7:10:31 | 21.18 | 0.527 | 18.65 | 10.68 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 7:15:31 | 21.18 | 0.526 | 18.65 | 10.681 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 7:20:31 | 21.18 | 0.526 | 18.65 | 10.682 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 7:25:31 | 21.19 | 0.526 | 18.65 | 10.682 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 7:30:31 | 21.19 | 0.526 | 18.65 | 10.683 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 7:35:31 | 21.19 | 0.526 | 18.65 | 10.683 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 7:40:31 | 21.19 | 0.526 | 18.65 | 10.681 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 7:45:31 | 21.19 | 0.526 | 18.65 | 10.687 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 7:50:31 | 21.19 | 0.526 | 18.65 | 10.688 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 7:55:31 | 21.18 | 0.526 | 18.65 | 10.686 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 8:00:31 | 21.19 | 0.526 | 18.65 | 10.686 | 5.55 | 70.8 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 8:05:31 | 21.19 | 0.526 | 18.65 | 10.689 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 8:10:31 | 21.19 | 0.526 | 18.65 | 10.688 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 8:15:31 | 21.19 | 0.526 | 18.65 | 10.686 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 8:20:31 | 21.19 | 0.526 | 18.65 | 10.687 | 5.55 | 70.8 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 8:25:31 | 21.19 | 0.526 | 18.65 | 10.685 | 5.55 | 70.8 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 8:30:32 | 21.19 | 0.526 | 18.65 | 10.686 | 5.55 | 70.8 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 8:35:31 | 21.19 | 0.526 | 18.65 | 10.687 | 5.55 | 70.7 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 8:40:31 | 21.19 | 0.526 | 18.65 | 10.687 | 5.55 | 70.8 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 8:45:31 | 21.19 | 0.526 | 18.65 | 10.689 | 5.55 | 70.8 | -343 | 3.2 | 0.29 |
| 4/16/2012 | 8:50:31 | 21.19 | 0.526 | 18.65 | 10.687 | 5.55 | 70.8 | -344 | 3.2 | 0.29 |
| 4/16/2012 | 8:55:31 | 21.19 | 0.526 | 18.65 | 10.689 | 5.55 | 70.8 | -344 | 3.2 | 0.29 |
| 4/16/2012 | 9:00:31 | 21.19 | 0.526 | 18.65 | 10.69 | 5.55 | 70.8 | -344 | 3.2 | 0.29 |
| 4/16/2012 | 9:05:31 | 21.19 | 0.526 | 18.65 | 10.69 | 5.55 | 70.8 | -344 | 3.2 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 9:10:31 | 21.18 | 0.525 | 18.65 | 10.688 | 5.55 | 70.8 | -344 | 3.2 | 0.29 |
| 4/16/2012 | 9:15:31 | 21.18 | 0.525 | 18.65 | 10.687 | 5.55 | 70.8 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 9:20:31 | 21.18 | 0.526 | 18.65 | 10.687 | 5.55 | 70.8 | -345 | 3.2 | 0.28 |
| 4/16/2012 | 9:25:31 | 21.18 | 0.526 | 18.65 | 10.689 | 5.55 | 70.8 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 9:30:32 | 21.19 | 0.525 | 18.65 | 10.688 | 5.55 | 70.8 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 9:35:31 | 21.2 | 0.525 | 18.65 | 10.691 | 5.55 | 70.8 | -346 | 3.2 | 0.28 |
| 4/16/2012 | 9:40:31 | 21.2 | 0.524 | 18.65 | 10.689 | 5.55 | 70.8 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 9:45:31 | 21.16 | 0.524 | 18.65 | 10.687 | 5.55 | 70.8 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 9:50:31 | 21.15 | 0.525 | 18.65 | 10.688 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 9:55:31 | 21.19 | 0.525 | 18.65 | 10.689 | 5.55 | 70.8 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 10:00:31 | 21.2 | 0.525 | 18.65 | 10.69 | 5.55 | 70.8 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 10:05:31 | 21.2 | 0.525 | 18.66 | 10.692 | 5.55 | 70.8 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 10:10:31 | 21.2 | 0.525 | 18.66 | 10.695 | 5.55 | 70.8 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 10:15:31 | 21.21 | 0.525 | 18.66 | 10.697 | 5.55 | 70.8 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 10:20:31 | 21.21 | 0.525 | 18.66 | 10.699 | 5.55 | 70.8 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 10:25:32 | 21.2 | 0.525 | 18.66 | 10.699 | 5.55 | 70.8 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 10:30:31 | 21.2 | 0.526 | 18.66 | 10.698 | 5.55 | 70.8 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 10:35:31 | 21.19 | 0.526 | 18.66 | 10.7 | 5.55 | 70.8 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 10:40:32 | 21.19 | 0.526 | 18.66 | 10.699 | 5.55 | 70.8 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 10:45:31 | 21.19 | 0.526 | 18.66 | 10.703 | 5.55 | 70.8 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 10:50:31 | 21.19 | 0.526 | 18.66 | 10.7 | 5.55 | 70.8 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 10:55:31 | 21.19 | 0.526 | 18.66 | 10.7 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 11:00:31 | 21.17 | 0.525 | 18.66 | 10.695 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 11:05:31 | 21.16 | 0.526 | 18.66 | 10.696 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 11:10:31 | 21.19 | 0.525 | 18.65 | 10.685 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 11:15:31 | 21.2 | 0.525 | 18.65 | 10.687 | 5.55 | 70.8 | -345 | 3.2 | 0.28 |
| 4/16/2012 | 11:20:31 | 21.2 | 0.525 | 18.65 | 10.686 | 5.55 | 70.8 | -345 | 3.2 | 0.28 |
| 4/16/2012 | 11:25:31 | 21.21 | 0.525 | 18.65 | 10.686 | 5.55 | 70.9 | -344 | 3.2 | 0.29 |
| 4/16/2012 | 11:30:31 | 21.21 | 0.525 | 18.65 | 10.688 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 11:35:32 | 21.21 | 0.525 | 18.65 | 10.688 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 11:40:31 | 21.21 | 0.525 | 18.65 | 10.687 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 11:45:31 | 21.2 | 0.525 | 18.65 | 10.687 | 5.55 | 70.8 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 11:50:31 | 21.19 | 0.526 | 18.65 | 10.685 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 11:55:31 | 21.19 | 0.526 | 18.65 | 10.684 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 12:00:31 | 21.19 | 0.526 | 18.65 | 10.683 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 12:05:31 | 21.19 | 0.525 | 18.65 | 10.683 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 12:10:31 | 21.19 | 0.526 | 18.65 | 10.68 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 12:15:31 | 21.15 | 0.525 | 18.65 | 10.67 | 5.55 | 70.9 | -344 | 3.2 | 0.29 |
| 4/16/2012 | 12:20:31 | 21.17 | 0.525 | 18.65 | 10.68 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 12:25:31 | 21.19 | 0.525 | 18.65 | 10.68 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 12:30:31 | 21.19 | 0.525 | 18.65 | 10.681 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 12:35:31 | 21.19 | 0.525 | 18.65 | 10.679 | 5.55 | 70.9 | -346 | 3.2 | 0.28 |
| 4/16/2012 | 12:40:32 | 21.2 | 0.525 | 18.65 | 10.679 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 12:45:31 | 21.2 | 0.524 | 18.65 | 10.678 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 12:50:31 | 21.2 | 0.525 | 18.65 | 10.68 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 12:55:31 | 21.2 | 0.525 | 18.65 | 10.68 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 13:00:31 | 21.21 | 0.525 | 18.65 | 10.677 | 5.55 | 70.9 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 13:05:31 | 21.21 | 0.524 | 18.65 | 10.675 | 5.55 | 70.9 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 13:10:31 | 21.21 | 0.524 | 18.65 | 10.675 | 5.55 | 70.9 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 13:15:31 | 21.2 | 0.524 | 18.65 | 10.674 | 5.55 | 70.9 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 13:20:31 | 21.2 | 0.525 | 18.65 | 10.673 | 5.55 | 70.9 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 13:25:31 | 21.2 | 0.525 | 18.65 | 10.673 | 5.55 | 70.9 | -346 | 3.2 | 0.28 |
| 4/16/2012 | 13:30:31 | 21.18 | 0.525 | 18.65 | 10.67 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 13:35:31 | 21.16 | 0.525 | 18.65 | 10.672 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 13:40:31 | 21.19 | 0.525 | 18.65 | 10.672 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 13:45:31 | 21.2 | 0.525 | 18.65 | 10.672 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 13:50:31 | 21.21 | 0.525 | 18.65 | 10.671 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 13:55:31 | 21.21 | 0.525 | 18.65 | 10.671 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 14:00:31 | 21.21 | 0.525 | 18.65 | 10.671 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 14:05:31 | 21.2 | 0.525 | 18.65 | 10.672 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 14:10:31 | 21.2 | 0.525 | 18.65 | 10.671 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 14:15:31 | 21.19 | 0.525 | 18.65 | 10.67 | 5.55 | 70.9 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 14:20:31 | 21.19 | 0.525 | 18.65 | 10.67 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 14:25:31 | 21.19 | 0.525 | 18.65 | 10.671 | 5.55 | 70.9 | -346 | 3.2 | 0.28 |
| 4/16/2012 | 14:30:31 | 21.19 | 0.525 | 18.64 | 10.668 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 14:35:31 | 21.19 | 0.525 | 18.65 | 10.669 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 14:40:31 | 21.19 | 0.525 | 18.64 | 10.665 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 14:45:31 | 21.19 | 0.525 | 18.64 | 10.668 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 14:50:31 | 21.19 | 0.525 | 18.64 | 10.667 | 5.55 | 70.9 | -345 | 3.2 | 0.29 |
| 4/16/2012 | 14:55:31 | 21.19 | 0.525 | 18.64 | 10.665 | 5.55 | 70.9 | -345 | 3.2 | 0.28 |
| 4/16/2012 | 15:00:31 | 21.16 | 0.525 | 18.64 | 10.662 | 5.55 | 71 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 15:05:31 | 21.17 | 0.525 | 18.64 | 10.659 | 5.55 | 71 | -346 | 3.2 | 0.28 |
| 4/16/2012 | 15:10:31 | 21.17 | 0.525 | 18.64 | 10.661 | 5.55 | 70.9 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 15:15:31 | 21.18 | 0.525 | 18.64 | 10.658 | 5.55 | 70.9 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 15:20:31 | 21.17 | 0.525 | 18.64 | 10.654 | 5.55 | 70.9 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 15:25:31 | 21.19 | 0.525 | 18.64 | 10.653 | 5.55 | 70.9 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 15:30:31 | 21.2 | 0.524 | 18.64 | 10.652 | 5.55 | 70.9 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 15:35:31 | 21.2 | 0.524 | 18.64 | 10.651 | 5.55 | 70.9 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 15:40:31 | 21.2 | 0.524 | 18.64 | 10.651 | 5.55 | 70.9 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 15:45:31 | 21.2 | 0.524 | 18.64 | 10.652 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 15:50:31 | 21.2 | 0.524 | 18.64 | 10.652 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 15:55:31 | 21.2 | 0.524 | 18.64 | 10.649 | 5.55 | 71 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 16:00:31 | 21.2 | 0.525 | 18.64 | 10.648 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 16:05:31 | 21.19 | 0.525 | 18.63 | 10.646 | 5.55 | 71 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 16:10:31 | 21.19 | 0.525 | 18.64 | 10.647 | 5.55 | 70.9 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 16:15:31 | 21.2 | 0.525 | 18.64 | 10.647 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 16:20:31 | 21.2 | 0.525 | 18.63 | 10.644 | 5.55 | 71 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 16:25:31 | 21.2 | 0.525 | 18.64 | 10.646 | 5.55 | 71 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 16:30:31 | 21.19 | 0.525 | 18.63 | 10.644 | 5.55 | 71 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 16:35:31 | 21.19 | 0.525 | 18.63 | 10.643 | 5.55 | 71 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 16:40:31 | 21.19 | 0.525 | 18.63 | 10.644 | 5.55 | 71 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 16:45:31 | 21.19 | 0.525 | 18.63 | 10.639 | 5.55 | 71 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 16:50:31 | 21.19 | 0.525 | 18.63 | 10.639 | 5.55 | 71 | -346 | 3.2 | 0.28 |
| 4/16/2012 | 16:55:31 | 21.24 | 0.523 | 18.63 | 10.636 | 5.55 | 71 | -346 | 3.2 | 0.28 |
| 4/16/2012 | 17:00:31 | 21.17 | 0.525 | 18.63 | 10.637 | 5.55 | 71 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 17:05:31 | 21.2 | 0.524 | 18.63 | 10.634 | 5.55 | 71 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 17:10:31 | 21.19 | 0.525 | 18.63 | 10.637 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 17:15:31 | 21.18 | 0.525 | 18.63 | 10.64 | 5.55 | 71 | -346 | 3.2 | 0.28 |
| 4/16/2012 | 17:20:31 | 21.21 | 0.525 | 18.63 | 10.639 | 5.55 | 71 | -346 | 3.2 | 0.28 |
| 4/16/2012 | 17:25:31 | 21.22 | 0.524 | 18.63 | 10.637 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 17:30:31 | 21.22 | 0.524 | 18.63 | 10.635 | 5.55 | 71 | -346 | 3.2 | 0.28 |
| 4/16/2012 | 17:35:31 | 21.19 | 0.524 | 18.63 | 10.638 | 5.55 | 71 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 17:40:31 | 21.17 | 0.525 | 18.63 | 10.637 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 17:45:31 | 21.19 | 0.525 | 18.63 | 10.638 | 5.55 | 71 | -346 | 3.2 | 0.29 |
| 4/16/2012 | 17:50:31 | 21.17 | 0.524 | 18.63 | 10.636 | 5.55 | 71 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 17:55:31 | 21.19 | 0.525 | 18.63 | 10.64 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 18:00:31 | 21.18 | 0.525 | 18.63 | 10.634 | 5.55 | 71 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 18:05:31 | 21.18 | 0.525 | 18.63 | 10.638 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 18:10:31 | 21.18 | 0.525 | 18.63 | 10.625 | 5.55 | 71.1 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 18:15:31 | 21.18 | 0.525 | 18.63 | 10.637 | 5.55 | 71.1 | -347 | 3.2 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 18:20:31 | 21.19 | 0.525 | 18.63 | 10.64 | 5.55 | 71 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 18:25:31 | 21.2 | 0.525 | 18.63 | 10.639 | 5.55 | 71 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 18:30:31 | 21.16 | 0.524 | 18.63 | 10.633 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 18:35:31 | 21.18 | 0.525 | 18.63 | 10.634 | 5.55 | 71 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 18:40:31 | 21.19 | 0.525 | 18.63 | 10.634 | 5.55 | 71 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 18:45:31 | 21.2 | 0.525 | 18.63 | 10.634 | 5.55 | 71 | -347 | 3.2 | 0.28 |
| 4/16/2012 | 18:50:31 | 21.2 | 0.525 | 18.63 | 10.632 | 5.55 | 71 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 18:55:31 | 21.19 | 0.525 | 18.63 | 10.634 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 19:00:31 | 21.2 | 0.525 | 18.63 | 10.634 | 5.55 | 71 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 19:05:31 | 21.22 | 0.524 | 18.63 | 10.634 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 19:10:31 | 21.22 | 0.524 | 18.63 | 10.635 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 19:15:31 | 21.2 | 0.525 | 18.63 | 10.635 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 19:20:31 | 21.2 | 0.525 | 18.63 | 10.642 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 19:25:31 | 21.21 | 0.525 | 18.64 | 10.649 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 19:30:31 | 21.21 | 0.525 | 18.63 | 10.639 | 5.55 | 71 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 19:35:31 | 21.2 | 0.525 | 18.63 | 10.631 | 5.55 | 71 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 19:40:31 | 21.24 | 0.525 | 18.63 | 10.628 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 19:45:31 | 21.19 | 0.524 | 18.63 | 10.637 | 5.55 | 71.1 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 19:50:31 | 21.19 | 0.525 | 18.63 | 10.638 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 19:55:31 | 21.19 | 0.524 | 18.63 | 10.634 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 20:00:31 | 21.17 | 0.524 | 18.63 | 10.634 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 20:05:31 | 21.17 | 0.524 | 18.63 | 10.632 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 20:10:31 | 21.17 | 0.525 | 18.63 | 10.634 | 5.55 | 71 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 20:15:31 | 21.18 | 0.525 | 18.63 | 10.634 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 20:20:31 | 21.2 | 0.524 | 18.63 | 10.637 | 5.55 | 71 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 20:25:31 | 21.21 | 0.524 | 18.63 | 10.635 | 5.55 | 71 | -349 | 3.2 | 0.28 |
| 4/16/2012 | 20:30:31 | 21.21 | 0.524 | 18.63 | 10.634 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 20:35:31 | 21.21 | 0.524 | 18.63 | 10.637 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 20:40:31 | 21.22 | 0.524 | 18.63 | 10.635 | 5.55 | 71 | -349 | 3.2 | 0.28 |
| 4/16/2012 | 20:45:31 | 21.22 | 0.524 | 18.63 | 10.636 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 20:50:31 | 21.22 | 0.524 | 18.63 | 10.632 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 20:55:31 | 21.22 | 0.525 | 18.63 | 10.632 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 21:00:31 | 21.22 | 0.525 | 18.63 | 10.633 | 5.55 | 71 | -349 | 3.2 | 0.28 |
| 4/16/2012 | 21:05:31 | 21.22 | 0.525 | 18.63 | 10.636 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 21:10:31 | 21.21 | 0.525 | 18.63 | 10.635 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 21:15:31 | 21.22 | 0.525 | 18.63 | 10.635 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 21:20:31 | 21.22 | 0.524 | 18.63 | 10.632 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 21:25:31 | 21.23 | 0.524 | 18.63 | 10.633 | 5.55 | 71 | -349 | 3.2 | 0.28 |
| 4/16/2012 | 21:30:31 | 21.22 | 0.523 | 18.63 | 10.633 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 21:35:31 | 21.21 | 0.524 | 18.63 | 10.632 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 21:40:31 | 21.21 | 0.524 | 18.63 | 10.632 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 21:45:31 | 21.21 | 0.524 | 18.63 | 10.634 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 21:50:31 | 21.2 | 0.524 | 18.63 | 10.635 | 5.55 | 71 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 21:55:31 | 21.21 | 0.524 | 18.63 | 10.634 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 22:00:31 | 21.21 | 0.524 | 18.63 | 10.635 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 22:05:31 | 21.2 | 0.524 | 18.63 | 10.636 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/16/2012 | 22:10:31 | 21.2 | 0.524 | 18.63 | 10.635 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 22:15:31 | 21.2 | 0.524 | 18.63 | 10.635 | 5.55 | 71 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 22:20:31 | 21.2 | 0.524 | 18.63 | 10.633 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 22:25:31 | 21.18 | 0.524 | 18.63 | 10.631 | 5.55 | 71.1 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 22:30:31 | 21.2 | 0.524 | 18.63 | 10.631 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 22:35:31 | 21.21 | 0.523 | 18.63 | 10.629 | 5.55 | 71.1 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 22:40:31 | 21.19 | 0.524 | 18.63 | 10.63 | 5.55 | 71.1 | -348 | 3.2 | 0.29 |
| 4/16/2012 | 22:45:31 | 21.2 | 0.524 | 18.63 | 10.628 | 5.55 | 71 | -348 | 3.2 | 0.28 |
| 4/16/2012 | 22:50:31 | 21.21 | 0.524 | 18.63 | 10.63 | 5.55 | 71 | -349 | 3.2 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 22:55:31 | 21.2 | 0.524 | 18.63 | 10.626 | 5.55 | 71 | -349 | 3.2 | 0.28 |
| 4/16/2012 | 23:00:31 | 21.2 | 0.524 | 18.63 | 10.628 | 5.55 | 71.1 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 23:05:32 | 21.23 | 0.523 | 18.63 | 10.627 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 23:10:31 | 21.23 | 0.523 | 18.63 | 10.627 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 23:15:31 | 21.2 | 0.524 | 18.63 | 10.625 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 23:20:31 | 21.22 | 0.524 | 18.63 | 10.625 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 23:25:31 | 21.22 | 0.523 | 18.63 | 10.623 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 23:30:31 | 21.22 | 0.523 | 18.62 | 10.621 | 5.55 | 71 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 23:35:31 | 21.22 | 0.522 | 18.62 | 10.621 | 5.55 | 71.1 | -349 | 3.2 | 0.28 |
| 4/16/2012 | 23:40:31 | 21.21 | 0.523 | 18.62 | 10.62 | 5.55 | 71.1 | -349 | 3.2 | 0.29 |
| 4/16/2012 | 23:45:32 | 21.21 | 0.523 | 18.62 | 10.618 | 5.55 | 71 | -349 | 3.2 | 0.28 |
| 4/16/2012 | 23:50:31 | 21.21 | 0.524 | 18.62 | 10.614 | 5.55 | 71 | -349 | 3.2 | 0.28 |
| 4/16/2012 | 23:55:32 | 21.2 | 0.524 | 18.62 | 10.615 | 5.55 | 71 | -348 | 3.2 | 0.29 |
| 4/17/2012 | 0:00:31 | 21.2 | 0.524 | 18.62 | 10.612 | 5.55 | 71.1 | -347 | 3.2 | 0.29 |
| 4/17/2012 | 0:05:31 | 21.2 | 0.524 | 18.62 | 10.612 | 5.55 | 71 | -347 | 3.2 | 0.29 |
| 4/17/2012 | 0:10:31 | 21.2 | 0.524 | 18.62 | 10.611 | 5.55 | 71.1 | -348 | 3.2 | 0.28 |
| 4/17/2012 | 0:15:31 | 21.2 | 0.524 | 18.62 | 10.614 | 5.55 | 71.1 | -348 | 3.2 | 0.29 |
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| 4/17/2012 | 0:25:31 | 21.21 | 0.524 | 18.62 | 10.613 | 5.55 | 71.1 | -348 | 3.2 | 0.29 |
| 4/17/2012 | 0:30:31 | 21.18 | 0.524 | 18.62 | 10.612 | 5.55 | 71.1 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 0:35:31 | 21.2 | 0.524 | 18.62 | 10.61 | 5.55 | 71.1 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 0:40:31 | 21.2 | 0.524 | 18.62 | 10.609 | 5.55 | 71.1 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 0:45:31 | 21.19 | 0.524 | 18.62 | 10.609 | 5.55 | 71.1 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 0:50:31 | 21.19 | 0.524 | 18.62 | 10.607 | 5.55 | 71.1 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 0:55:31 | 21.19 | 0.522 | 18.62 | 10.606 | 5.55 | 71.1 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 1:00:31 | 21.19 | 0.523 | 18.62 | 10.604 | 5.55 | 71.1 | -348 | 3.2 | 0.28 |
| 4/17/2012 | 1:05:31 | 21.16 | 0.523 | 18.62 | 10.604 | 5.55 | 71.1 | -348 | 3.2 | 0.28 |
| 4/17/2012 | 1:10:31 | 21.19 | 0.524 | 18.62 | 10.604 | 5.55 | 71.1 | -348 | 3.2 | 0.28 |
| 4/17/2012 | 1:15:31 | 21.2 | 0.523 | 18.62 | 10.602 | 5.55 | 71.1 | -349 | 3.2 | 0.28 |
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| 4/17/2012 | 1:45:32 | 21.19 | 0.523 | 18.62 | 10.602 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 1:50:31 | 21.21 | 0.523 | 18.61 | 10.599 | 5.55 | 71.1 | -349 | 3.2 | 0.28 |
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| 4/17/2012 | 2:25:31 | 21.19 | 0.523 | 18.61 | 10.596 | 5.55 | 71.1 | -347 | 3.2 | 0.28 |
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| 4/17/2012 | 2:35:31 | 21.19 | 0.524 | 18.61 | 10.595 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
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| 4/17/2012 | 2:45:31 | 21.23 | 0.523 | 18.61 | 10.597 | 5.55 | 71.1 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 2:50:31 | 21.24 | 0.523 | 18.61 | 10.594 | 5.55 | 71.1 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 2:55:31 | 21.23 | 0.523 | 18.61 | 10.596 | 5.55 | 71.1 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 3:00:31 | 21.22 | 0.523 | 18.61 | 10.596 | 5.55 | 71.1 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 3:05:31 | 21.18 | 0.523 | 18.61 | 10.592 | 5.55 | 71.2 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 3:10:31 | 21.19 | 0.523 | 18.61 | 10.594 | 5.55 | 71.2 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 3:15:31 | 21.2 | 0.523 | 18.61 | 10.594 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 3:20:31 | 21.2 | 0.523 | 18.61 | 10.594 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 3:25:31 | 21.2 | 0.524 | 18.61 | 10.592 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 3:30:31 | 21.21 | 0.523 | 18.61 | 10.592 | 5.55 | 71.2 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 3:35:31 | 21.22 | 0.523 | 18.61 | 10.593 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 3:40:31 | 21.21 | 0.523 | 18.61 | 10.591 | 5.55 | 71.1 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 3:45:31 | 21.21 | 0.523 | 18.61 | 10.589 | 5.55 | 71.1 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 3:50:31 | 21.22 | 0.522 | 18.61 | 10.591 | 5.55 | 71.1 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 3:55:31 | 21.21 | 0.522 | 18.61 | 10.592 | 5.55 | 71.2 | -348 | 3.2 | 0.28 |
| 4/17/2012 | 4:00:31 | 21.21 | 0.523 | 18.61 | 10.59 | 5.55 | 71.2 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 4:05:31 | 21.21 | 0.523 | 18.61 | 10.592 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 4:10:32 | 21.2 | 0.523 | 18.61 | 10.591 | 5.55 | 71.2 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 4:15:31 | 21.18 | 0.522 | 18.61 | 10.593 | 5.55 | 71.2 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 4:20:31 | 21.16 | 0.524 | 18.61 | 10.585 | 5.55 | 71.2 | -348 | 3.2 | 0.28 |
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| 4/17/2012 | 5:05:31 | 21.24 | 0.523 | 18.61 | 10.589 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
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| 4/17/2012 | 6:05:31 | 21.19 | 0.523 | 18.61 | 10.588 | 5.55 | 71.2 | -350 | 3.2 | 0.29 |
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| 4/17/2012 | 6:50:31 | 21.23 | 0.522 | 18.62 | 10.6 | 5.55 | 71.2 | -350 | 3.2 | 0.29 |
| 4/17/2012 | 6:55:31 | 21.22 | 0.523 | 18.62 | 10.602 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 7:00:31 | 21.22 | 0.523 | 18.62 | 10.602 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 7:05:31 | 21.22 | 0.523 | 18.62 | 10.601 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 7:10:31 | 21.21 | 0.524 | 18.62 | 10.605 | 5.55 | 71.2 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 7:15:32 | 21.21 | 0.524 | 18.62 | 10.605 | 5.55 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 7:20:31 | 21.21 | 0.524 | 18.62 | 10.607 | 5.55 | 71.2 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 7:25:31 | 21.2 | 0.523 | 18.62 | 10.606 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 7:30:31 | 21.21 | 0.523 | 18.62 | 10.606 | 5.55 | 71.2 | -350 | 3.2 | 0.29 |
| 4/17/2012 | 7:35:31 | 21.21 | 0.523 | 18.62 | 10.609 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 7:40:31 | 21.2 | 0.523 | 18.62 | 10.609 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 7:45:31 | 21.2 | 0.523 | 18.62 | 10.609 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 7:50:31 | 21.2 | 0.523 | 18.62 | 10.611 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 7:55:31 | 21.22 | 0.523 | 18.62 | 10.611 | 5.55 | 71.2 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 8:00:31 | 21.23 | 0.523 | 18.62 | 10.612 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 8:05:31 | 21.25 | 0.523 | 18.62 | 10.615 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 8:10:31 | 21.25 | 0.523 | 18.62 | 10.616 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 8:15:31 | 21.24 | 0.523 | 18.62 | 10.619 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 8:20:31 | 21.23 | 0.522 | 18.63 | 10.623 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 8:25:31 | 21.24 | 0.523 | 18.62 | 10.622 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 8:30:31 | 21.17 | 0.523 | 18.62 | 10.618 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 8:35:31 | 21.17 | 0.523 | 18.62 | 10.622 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 8:40:31 | 21.19 | 0.523 | 18.63 | 10.622 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 8:45:31 | 21.2 | 0.523 | 18.63 | 10.624 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 8:50:31 | 21.2 | 0.523 | 18.63 | 10.623 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
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| 4/17/2012 | 9:00:32 | 21.22 | 0.523 | 18.63 | 10.624 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 9:05:32 | 21.22 | 0.522 | 18.62 | 10.621 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 9:10:32 | 21.22 | 0.523 | 18.62 | 10.616 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 9:15:31 | 21.23 | 0.523 | 18.62 | 10.617 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 9:20:31 | 21.22 | 0.522 | 18.62 | 10.618 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 9:25:31 | 21.19 | 0.521 | 18.62 | 10.619 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 9:30:31 | 21.18 | 0.523 | 18.64 | 10.646 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 9:35:31 | 21.19 | 0.523 | 18.64 | 10.651 | 5.54 | 71.2 | -350 | 3.2 | 0.29 |
| 4/17/2012 | 9:40:31 | 21.19 | 0.523 | 18.63 | 10.645 | 5.55 | 71.2 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 9:45:31 | 21.19 | 0.523 | 18.63 | 10.643 | 5.55 | 71.2 | -350 | 3.2 | 0.29 |
| 4/17/2012 | 9:50:31 | 21.21 | 0.523 | 18.63 | 10.642 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 9:55:31 | 21.21 | 0.523 | 18.63 | 10.641 | 5.54 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 10:00:31 | 21.19 | 0.523 | 18.63 | 10.64 | 5.54 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 10:05:31 | 21.2 | 0.523 | 18.63 | 10.638 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 10:10:31 | 21.22 | 0.523 | 18.63 | 10.638 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 10:15:31 | 21.22 | 0.522 | 18.63 | 10.637 | 5.55 | 71.2 | -350 | 3.2 | 0.29 |
| 4/17/2012 | 10:20:31 | 21.22 | 0.522 | 18.63 | 10.636 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 10:25:31 | 21.22 | 0.522 | 18.63 | 10.636 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 10:30:31 | 21.22 | 0.523 | 18.63 | 10.635 | 5.55 | 71.2 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 10:35:32 | 21.24 | 0.523 | 18.63 | 10.635 | 5.55 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 10:40:31 | 21.24 | 0.523 | 18.63 | 10.634 | 5.55 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 10:45:31 | 21.23 | 0.523 | 18.63 | 10.633 | 5.55 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 10:50:31 | 21.21 | 0.523 | 18.63 | 10.632 | 5.54 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 10:55:31 | 21.21 | 0.523 | 18.63 | 10.629 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 11:00:31 | 21.22 | 0.523 | 18.63 | 10.631 | 5.55 | 71.2 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 11:05:31 | 21.23 | 0.523 | 18.63 | 10.628 | 5.55 | 71.2 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 11:10:31 | 21.17 | 0.523 | 18.63 | 10.625 | 5.54 | 71.2 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 11:15:31 | 21.18 | 0.523 | 18.63 | 10.626 | 5.54 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 11:20:32 | 21.2 | 0.523 | 18.63 | 10.624 | 5.54 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 11:25:31 | 21.21 | 0.523 | 18.63 | 10.623 | 5.54 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 11:30:31 | 21.2 | 0.523 | 18.62 | 10.62 | 5.54 | 71.2 | -347 | 3.2 | 0.28 |
| 4/17/2012 | 11:35:31 | 21.21 | 0.522 | 18.62 | 10.616 | 5.55 | 71.2 | -347 | 3.2 | 0.28 |
| 4/17/2012 | 11:40:31 | 21.17 | 0.523 | 18.62 | 10.617 | 5.54 | 71.2 | -347 | 3.2 | 0.28 |
| 4/17/2012 | 11:45:31 | 21.21 | 0.522 | 18.62 | 10.617 | 5.54 | 71.2 | -344 | 3.2 | 0.28 |
| 4/17/2012 | 11:50:31 | 21.2 | 0.523 | 18.62 | 10.612 | 5.54 | 71.3 | -344 | 3.2 | 0.29 |
| 4/17/2012 | 11:55:31 | 21.19 | 0.522 | 18.62 | 10.61 | 5.54 | 71.3 | -347 | 3.2 | 0.28 |
| 4/17/2012 | 12:00:31 | 21.19 | 0.523 | 18.62 | 10.61 | 5.54 | 71.2 | -348 | 3.2 | 0.28 |
| 4/17/2012 | 12:05:31 | 21.2 | 0.523 | 18.62 | 10.611 | 5.54 | 71.2 | -348 | 3.2 | 0.28 |
| 4/17/2012 | 12:10:31 | 21.2 | 0.523 | 18.62 | 10.611 | 5.54 | 71.2 | -348 | 3.2 | 0.28 |
| 4/17/2012 | 12:15:31 | 21.22 | 0.523 | 18.62 | 10.611 | 5.55 | 71.2 | -349 | 3.2 | 0.28 |
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| 4/17/2012 | 12:25:31 | 21.22 | 0.523 | 18.62 | 10.609 | 5.54 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 12:30:31 | 21.17 | 0.523 | 18.62 | 10.606 | 5.54 | 71.3 | -350 | 3.2 | 0.28 |
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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 12:40:31 | 21.19 | 0.522 | 18.62 | 10.602 | 5.54 | 71.2 | -349 | 3.2 | 0.29 |
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| 4/17/2012 | 12:50:31 | 21.19 | 0.523 | 18.62 | 10.602 | 5.54 | 71.3 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 12:55:31 | 21.21 | 0.523 | 18.62 | 10.601 | 5.54 | 71.2 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 13:00:31 | 21.22 | 0.523 | 18.62 | 10.6 | 5.54 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 13:05:31 | 21.2 | 0.523 | 18.62 | 10.6 | 5.54 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 13:10:31 | 21.2 | 0.523 | 18.62 | 10.6 | 5.54 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 13:15:31 | 21.22 | 0.523 | 18.62 | 10.601 | 5.54 | 71.2 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 13:20:31 | 21.2 | 0.523 | 18.61 | 10.586 | 5.54 | 71.3 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 13:25:31 | 21.2 | 0.523 | 18.61 | 10.598 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 13:30:31 | 21.2 | 0.523 | 18.61 | 10.596 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 13:35:31 | 21.21 | 0.523 | 18.61 | 10.595 | 5.54 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 13:40:31 | 21.19 | 0.522 | 18.61 | 10.591 | 5.55 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 13:45:31 | 21.17 | 0.523 | 18.61 | 10.591 | 5.54 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 13:50:31 | 21.2 | 0.523 | 18.61 | 10.594 | 5.54 | 71.2 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 13:55:31 | 21.21 | 0.523 | 18.61 | 10.596 | 5.54 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 14:00:31 | 21.22 | 0.523 | 18.61 | 10.597 | 5.54 | 71.2 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 14:05:31 | 21.22 | 0.523 | 18.61 | 10.597 | 5.54 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 14:10:31 | 21.21 | 0.523 | 18.61 | 10.596 | 5.54 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 14:15:31 | 21.22 | 0.523 | 18.61 | 10.596 | 5.54 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 14:20:31 | 21.23 | 0.523 | 18.61 | 10.596 | 5.54 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 14:25:31 | 21.23 | 0.523 | 18.61 | 10.595 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 14:30:31 | 21.17 | 0.521 | 18.61 | 10.593 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 14:35:32 | 21.2 | 0.522 | 18.61 | 10.593 | 5.54 | 71.2 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 14:40:31 | 21.18 | 0.523 | 18.61 | 10.589 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 14:45:31 | 21.21 | 0.523 | 18.61 | 10.585 | 5.54 | 71.2 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 14:50:31 | 21.19 | 0.523 | 18.61 | 10.58 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 14:55:31 | 21.2 | 0.523 | 18.61 | 10.58 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 15:00:31 | 21.21 | 0.523 | 18.61 | 10.578 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 15:05:31 | 21.21 | 0.523 | 18.61 | 10.579 | 5.54 | 71.2 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 15:10:31 | 21.21 | 0.523 | 18.61 | 10.577 | 5.54 | 71.2 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 15:15:31 | 21.22 | 0.523 | 18.61 | 10.585 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 15:20:31 | 21.18 | 0.522 | 18.6 | 10.574 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 15:25:31 | 21.19 | 0.522 | 18.6 | 10.571 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 15:30:31 | 21.21 | 0.522 | 18.6 | 10.572 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 15:35:31 | 21.2 | 0.522 | 18.6 | 10.573 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 15:40:31 | 21.2 | 0.523 | 18.6 | 10.574 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 15:45:31 | 21.19 | 0.523 | 18.6 | 10.573 | 5.54 | 71.3 | -352 | 3.2 | 0.29 |
| 4/17/2012 | 15:50:31 | 21.21 | 0.522 | 18.6 | 10.574 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 15:55:31 | 21.23 | 0.522 | 18.6 | 10.573 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:00:31 | 21.22 | 0.522 | 18.6 | 10.572 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:05:31 | 21.2 | 0.523 | 18.6 | 10.571 | 5.54 | 71.2 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:10:31 | 21.19 | 0.523 | 18.6 | 10.572 | 5.54 | 71.2 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:15:31 | 21.23 | 0.523 | 18.6 | 10.571 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:20:31 | 21.23 | 0.522 | 18.6 | 10.57 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:25:31 | 21.24 | 0.521 | 18.6 | 10.568 | 5.54 | 71.2 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:30:31 | 21.23 | 0.521 | 18.6 | 10.569 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:35:31 | 21.23 | 0.521 | 18.6 | 10.565 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:40:31 | 21.22 | 0.522 | 18.6 | 10.564 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:45:31 | 21.24 | 0.521 | 18.6 | 10.565 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:50:31 | 21.15 | 0.521 | 18.6 | 10.56 | 5.54 | 71.4 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 16:55:31 | 21.13 | 0.522 | 18.6 | 10.563 | 5.54 | 71.4 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 17:00:31 | 21.13 | 0.522 | 18.6 | 10.559 | 5.54 | 71.4 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 17:05:31 | 21.14 | 0.522 | 18.6 | 10.56 | 5.54 | 71.4 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 17:10:31 | 21.15 | 0.522 | 18.6 | 10.559 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 17:15:31 | 21.18 | 0.522 | 18.6 | 10.559 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 17:20:31 | 21.2 | 0.522 | 18.6 | 10.557 | 5.54 | 71.3 | -352 | 3.2 | 0.29 |
| 4/17/2012 | 17:25:31 | 21.2 | 0.523 | 18.6 | 10.556 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 17:30:31 | 21.22 | 0.523 | 18.6 | 10.558 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 17:35:31 | 21.22 | 0.522 | 18.6 | 10.556 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 17:40:31 | 21.24 | 0.522 | 18.6 | 10.561 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 17:45:31 | 21.19 | 0.522 | 18.6 | 10.556 | 5.54 | 71.3 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 17:50:31 | 21.22 | 0.522 | 18.6 | 10.558 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 17:55:31 | 21.24 | 0.522 | 18.6 | 10.56 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 18:00:32 | 21.24 | 0.522 | 18.6 | 10.559 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 18:05:32 | 21.19 | 0.522 | 18.6 | 10.559 | 5.54 | 71.3 | -352 | 3.2 | 0.29 |
| 4/17/2012 | 18:10:31 | 21.22 | 0.522 | 18.6 | 10.558 | 5.54 | 71.3 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 18:15:31 | 21.23 | 0.522 | 18.6 | 10.558 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 18:20:31 | 21.24 | 0.522 | 18.6 | 10.559 | 5.54 | 71.4 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 18:25:31 | 21.25 | 0.522 | 18.6 | 10.561 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 18:30:31 | 21.26 | 0.521 | 18.6 | 10.559 | 5.54 | 71.3 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 18:35:31 | 21.25 | 0.521 | 18.6 | 10.559 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 18:40:31 | 21.25 | 0.521 | 18.6 | 10.559 | 5.54 | 71.3 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 18:45:31 | 21.24 | 0.52 | 18.6 | 10.561 | 5.54 | 71.3 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 18:50:31 | 21.24 | 0.521 | 18.6 | 10.558 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 18:55:31 | 21.25 | 0.522 | 18.6 | 10.558 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 19:00:31 | 21.26 | 0.522 | 18.6 | 10.556 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 19:05:31 | 21.26 | 0.522 | 18.6 | 10.555 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 19:10:31 | 21.27 | 0.522 | 18.6 | 10.554 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 19:15:31 | 21.26 | 0.522 | 18.59 | 10.549 | 5.54 | 71.4 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 19:20:31 | 21.25 | 0.522 | 18.59 | 10.55 | 5.54 | 71.4 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 19:25:31 | 21.26 | 0.522 | 18.59 | 10.551 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 19:30:31 | 21.26 | 0.522 | 18.59 | 10.552 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 19:35:31 | 21.25 | 0.522 | 18.59 | 10.551 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 19:40:31 | 21.21 | 0.522 | 18.59 | 10.544 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 19:45:32 | 21.22 | 0.522 | 18.59 | 10.551 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 19:50:31 | 21.22 | 0.522 | 18.59 | 10.551 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 19:55:31 | 21.22 | 0.522 | 18.59 | 10.553 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 20:00:31 | 21.23 | 0.522 | 18.6 | 10.555 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 20:05:31 | 21.24 | 0.522 | 18.6 | 10.555 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/17/2012 | 20:10:31 | 21.24 | 0.522 | 18.6 | 10.554 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/17/2012 | 20:15:31 | 21.24 | 0.522 | 18.6 | 10.556 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/17/2012 | 20:20:31 | 21.24 | 0.522 | 18.6 | 10.555 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/17/2012 | 20:25:31 | 21.19 | 0.522 | 18.6 | 10.554 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 20:30:31 | 21.2 | 0.522 | 18.59 | 10.552 | 5.54 | 71.4 | -353 | 3.2 | 0.29 |
| 4/17/2012 | 20:35:31 | 21.21 | 0.522 | 18.6 | 10.555 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 20:40:31 | 21.21 | 0.522 | 18.6 | 10.556 | 5.54 | 71.4 | -353 | 3.2 | 0.29 |
| 4/17/2012 | 20:45:31 | 21.23 | 0.522 | 18.6 | 10.553 | 5.54 | 71.4 | -353 | 3.2 | 0.29 |
| 4/17/2012 | 20:50:31 | 21.25 | 0.521 | 18.6 | 10.558 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/17/2012 | 20:55:31 | 21.21 | 0.522 | 18.6 | 10.559 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/17/2012 | 21:00:31 | 21.21 | 0.522 | 18.6 | 10.555 | 5.54 | 71.4 | -353 | 3.2 | 0.29 |
| 4/17/2012 | 21:05:31 | 21.22 | 0.522 | 18.6 | 10.557 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 21:10:31 | 21.21 | 0.522 | 18.6 | 10.557 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 21:15:31 | 21.21 | 0.522 | 18.6 | 10.559 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 21:20:31 | 21.21 | 0.522 | 18.6 | 10.557 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 21:25:31 | 21.22 | 0.521 | 18.6 | 10.555 | 5.54 | 71.4 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 21:30:31 | 21.19 | 0.521 | 18.59 | 10.553 | 5.54 | 71.4 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 21:35:31 | 21.19 | 0.522 | 18.59 | 10.553 | 5.54 | 71.4 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 21:40:31 | 21.21 | 0.521 | 18.59 | 10.551 | 5.54 | 71.4 | -344 | 3.2 | 0.29 |
| 4/17/2012 | 21:45:31 | 21.22 | 0.521 | 18.59 | 10.551 | 5.54 | 71.4 | -346 | 3.2 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 21:50:32 | 21.23 | 0.521 | 18.59 | 10.552 | 5.54 | 71.4 | -348 | 3.2 | 0.28 |
| 4/17/2012 | 21:55:31 | 21.21 | 0.522 | 18.59 | 10.553 | 5.54 | 71.4 | -348 | 3.2 | 0.28 |
| 4/17/2012 | 22:00:31 | 21.22 | 0.522 | 18.6 | 10.554 | 5.54 | 71.4 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 22:05:31 | 21.23 | 0.522 | 18.59 | 10.553 | 5.54 | 71.4 | -349 | 3.2 | 0.29 |
| 4/17/2012 | 22:10:31 | 21.25 | 0.522 | 18.59 | 10.552 | 5.54 | 71.4 | -349 | 3.2 | 0.28 |
| 4/17/2012 | 22:15:31 | 21.24 | 0.521 | 18.59 | 10.55 | 5.54 | 71.5 | -350 | 3.2 | 0.28 |
| 4/17/2012 | 22:20:31 | 21.24 | 0.521 | 18.59 | 10.55 | 5.54 | 71.5 | -347 | 3.2 | 0.28 |
| 4/17/2012 | 22:25:31 | 21.19 | 0.52 | 18.59 | 10.55 | 5.54 | 71.5 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 22:30:31 | 21.22 | 0.52 | 18.59 | 10.551 | 5.54 | 71.5 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 22:35:31 | 21.19 | 0.521 | 18.6 | 10.553 | 5.54 | 71.5 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 22:40:31 | 21.21 | 0.522 | 18.59 | 10.55 | 5.54 | 71.5 | -351 | 3.2 | 0.29 |
| 4/17/2012 | 22:45:31 | 21.24 | 0.521 | 18.59 | 10.549 | 5.54 | 71.4 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 22:50:31 | 21.21 | 0.52 | 18.59 | 10.546 | 5.54 | 71.5 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 22:55:31 | 21.17 | 0.521 | 18.59 | 10.545 | 5.54 | 71.5 | -351 | 3.2 | 0.28 |
| 4/17/2012 | 23:00:31 | 21.16 | 0.52 | 18.59 | 10.544 | 5.54 | 71.5 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 23:05:31 | 21.19 | 0.52 | 18.59 | 10.549 | 5.54 | 71.5 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 23:10:31 | 21.16 | 0.52 | 18.59 | 10.545 | 5.54 | 71.5 | -352 | 3.2 | 0.29 |
| 4/17/2012 | 23:15:31 | 21.13 | 0.52 | 18.59 | 10.544 | 5.54 | 71.5 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 23:20:31 | 21.14 | 0.52 | 18.59 | 10.545 | 5.54 | 71.5 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 23:25:31 | 21.15 | 0.52 | 18.59 | 10.54 | 5.54 | 71.5 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 23:30:31 | 21.17 | 0.52 | 18.59 | 10.542 | 5.54 | 71.5 | -352 | 3.2 | 0.28 |
| 4/17/2012 | 23:35:31 | 21.19 | 0.52 | 18.59 | 10.54 | 5.54 | 71.4 | -352 | 3.2 | 0.29 |
| 4/17/2012 | 23:40:31 | 21.19 | 0.52 | 18.59 | 10.535 | 5.54 | 71.4 | -353 | 3.2 | 0.29 |
| 4/17/2012 | 23:45:31 | 21.2 | 0.52 | 18.59 | 10.537 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 23:50:31 | 21.18 | 0.521 | 18.59 | 10.539 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/17/2012 | 23:55:31 | 21.21 | 0.52 | 18.59 | 10.538 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 0:00:31 | 21.22 | 0.52 | 18.59 | 10.538 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 0:05:31 | 21.2 | 0.521 | 18.59 | 10.538 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 0:10:31 | 21.21 | 0.521 | 18.59 | 10.538 | 5.54 | 71.4 | -354 | 3.2 | 0.29 |
| 4/18/2012 | 0:15:31 | 21.23 | 0.521 | 18.59 | 10.54 | 5.54 | 71.4 | -354 | 3.2 | 0.29 |
| 4/18/2012 | 0:20:31 | 21.24 | 0.52 | 18.59 | 10.54 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 0:25:31 | 21.25 | 0.52 | 18.59 | 10.538 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 0:30:31 | 21.24 | 0.521 | 18.59 | 10.535 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 0:35:31 | 21.21 | 0.521 | 18.59 | 10.536 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 0:40:31 | 21.21 | 0.522 | 18.59 | 10.533 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 0:45:31 | 21.23 | 0.521 | 18.59 | 10.533 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 0:50:31 | 21.23 | 0.521 | 18.59 | 10.533 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 0:55:31 | 21.24 | 0.522 | 18.59 | 10.531 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 1:00:31 | 21.24 | 0.521 | 18.58 | 10.529 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 1:05:31 | 21.25 | 0.521 | 18.58 | 10.523 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 1:10:31 | 21.26 | 0.52 | 18.57 | 10.506 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 1:15:31 | 21.23 | 0.52 | 18.57 | 10.498 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 1:20:31 | 21.23 | 0.52 | 18.57 | 10.494 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 1:25:31 | 21.21 | 0.519 | 18.57 | 10.489 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 1:30:31 | 21.2 | 0.519 | 18.57 | 10.491 | 5.54 | 71.5 | -352 | 3.2 | 0.28 |
| 4/18/2012 | 1:35:31 | 21.24 | 0.52 | 18.57 | 10.488 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 1:40:31 | 21.23 | 0.52 | 18.57 | 10.488 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 1:45:31 | 21.23 | 0.52 | 18.57 | 10.488 | 5.54 | 71.4 | -353 | 3.2 | 0.29 |
| 4/18/2012 | 1:50:31 | 21.19 | 0.52 | 18.56 | 10.484 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 1:55:32 | 21.2 | 0.52 | 18.57 | 10.487 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 2:00:31 | 21.21 | 0.521 | 18.57 | 10.486 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 2:05:31 | 21.22 | 0.521 | 18.57 | 10.485 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 2:10:31 | 21.22 | 0.521 | 18.56 | 10.484 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 2:15:31 | 21.22 | 0.52 | 18.57 | 10.485 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 2:20:31 | 21.23 | 0.52 | 18.57 | 10.488 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 2:25:31 | 21.24 | 0.519 | 18.57 | 10.486 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 2:30:31 | 21.23 | 0.52 | 18.57 | 10.484 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 2:35:31 | 21.21 | 0.52 | 18.57 | 10.486 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 2:40:31 | 21.21 | 0.521 | 18.56 | 10.482 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 2:45:31 | 21.2 | 0.521 | 18.57 | 10.484 | 5.54 | 71.4 | -354 | 3.2 | 0.29 |
| 4/18/2012 | 2:50:31 | 21.23 | 0.52 | 18.56 | 10.482 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 2:55:31 | 21.19 | 0.52 | 18.56 | 10.474 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 3:00:31 | 21.19 | 0.52 | 18.56 | 10.483 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 3:05:31 | 21.19 | 0.52 | 18.56 | 10.476 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 3:10:31 | 21.2 | 0.52 | 18.56 | 10.473 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 3:15:31 | 21.05 | 0.519 | 18.55 | 10.45 | 5.54 | 71.5 | -352 | 3.2 | 0.28 |
| 4/18/2012 | 3:20:31 | 21.05 | 0.518 | 18.56 | 10.467 | 5.54 | 71.5 | -350 | 3.2 | 0.29 |
| 4/18/2012 | 3:25:31 | 21.14 | 0.519 | 18.56 | 10.475 | 5.54 | 71.4 | -351 | 3.2 | 0.29 |
| 4/18/2012 | 3:30:31 | 21.13 | 0.52 | 18.56 | 10.477 | 5.54 | 71.5 | -351 | 3.2 | 0.28 |
| 4/18/2012 | 3:35:31 | 21.17 | 0.52 | 18.56 | 10.477 | 5.54 | 71.4 | -352 | 3.2 | 0.28 |
| 4/18/2012 | 3:40:31 | 21.19 | 0.52 | 18.56 | 10.477 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 3:45:31 | 21.19 | 0.52 | 18.56 | 10.476 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 3:50:31 | 21.21 | 0.52 | 18.56 | 10.476 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 3:55:31 | 21.22 | 0.52 | 18.56 | 10.478 | 5.54 | 71.4 | -354 | 3.2 | 0.29 |
| 4/18/2012 | 4:00:31 | 21.24 | 0.52 | 18.56 | 10.477 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 4:05:31 | 21.25 | 0.52 | 18.56 | 10.474 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 4:10:31 | 21.25 | 0.519 | 18.56 | 10.474 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 4:15:31 | 21.25 | 0.52 | 18.56 | 10.473 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 4:20:31 | 21.25 | 0.519 | 18.56 | 10.473 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 4:25:31 | 21.25 | 0.52 | 18.56 | 10.473 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 4:30:31 | 21.23 | 0.52 | 18.56 | 10.473 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 4:35:31 | 21.23 | 0.52 | 18.56 | 10.472 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 4:40:31 | 21.24 | 0.519 | 18.56 | 10.473 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 4:45:31 | 21.24 | 0.519 | 18.56 | 10.472 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 4:50:31 | 21.24 | 0.519 | 18.56 | 10.476 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 4:55:31 | 21.25 | 0.52 | 18.56 | 10.475 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 5:00:31 | 21.22 | 0.519 | 18.56 | 10.474 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 5:05:31 | 21.25 | 0.519 | 18.56 | 10.473 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 5:10:31 | 21.25 | 0.519 | 18.56 | 10.474 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 5:15:31 | 21.23 | 0.519 | 18.56 | 10.473 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
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| 4/18/2012 | 5:30:31 | 21.24 | 0.519 | 18.56 | 10.471 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 5:35:31 | 21.16 | 0.519 | 18.56 | 10.47 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 5:40:31 | 21.17 | 0.519 | 18.56 | 10.47 | 5.54 | 71.4 | -353 | 3.2 | 0.29 |
| 4/18/2012 | 5:45:31 | 21.21 | 0.519 | 18.56 | 10.474 | 5.54 | 71.4 | -353 | 3.2 | 0.29 |
| 4/18/2012 | 5:50:31 | 21.24 | 0.519 | 18.56 | 10.471 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 5:55:31 | 21.25 | 0.519 | 18.56 | 10.471 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 6:00:31 | 21.18 | 0.518 | 18.56 | 10.466 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 6:05:31 | 21.19 | 0.519 | 18.56 | 10.473 | 5.54 | 71.4 | -353 | 3.2 | 0.29 |
| 4/18/2012 | 6:10:31 | 21.22 | 0.519 | 18.56 | 10.474 | 5.54 | 71.4 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 6:15:31 | 21.24 | 0.519 | 18.56 | 10.472 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 6:20:31 | 21.23 | 0.519 | 18.56 | 10.472 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 6:25:31 | 21.22 | 0.519 | 18.56 | 10.473 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 6:30:31 | 21.22 | 0.52 | 18.56 | 10.476 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 6:35:31 | 21.23 | 0.519 | 18.56 | 10.472 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 6:40:32 | 21.24 | 0.519 | 18.56 | 10.471 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 6:45:31 | 21.24 | 0.519 | 18.56 | 10.473 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 6:50:31 | 21.24 | 0.519 | 18.56 | 10.472 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 6:55:31 | 21.24 | 0.519 | 18.56 | 10.473 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 7:00:31 | 21.24 | 0.518 | 18.56 | 10.475 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 7:05:31 | 21.24 | 0.519 | 18.56 | 10.476 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 7:10:32 | 21.23 | 0.519 | 18.56 | 10.477 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 7:15:31 | 21.25 | 0.518 | 18.56 | 10.476 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 7:20:31 | 21.25 | 0.519 | 18.57 | 10.486 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 7:25:31 | 21.26 | 0.519 | 18.57 | 10.491 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 7:30:31 | 21.26 | 0.518 | 18.57 | 10.486 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 7:35:31 | 21.26 | 0.519 | 18.56 | 10.482 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 7:40:31 | 21.26 | 0.518 | 18.56 | 10.48 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 7:45:32 | 21.26 | 0.518 | 18.56 | 10.481 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 7:50:31 | 21.26 | 0.518 | 18.56 | 10.48 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
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| 4/18/2012 | 8:00:31 | 21.22 | 0.517 | 18.57 | 10.485 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 8:05:31 | 21.23 | 0.517 | 18.56 | 10.483 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 8:10:31 | 21.19 | 0.517 | 18.56 | 10.483 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 8:15:31 | 21.19 | 0.518 | 18.56 | 10.483 | 5.54 | 71.5 | -353 | 3.2 | 0.29 |
| 4/18/2012 | 8:20:31 | 21.2 | 0.517 | 18.57 | 10.484 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 8:25:31 | 21.18 | 0.518 | 18.57 | 10.485 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 8:30:31 | 21.18 | 0.518 | 18.57 | 10.486 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 8:35:31 | 21.17 | 0.518 | 18.57 | 10.484 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 8:40:32 | 21.18 | 0.518 | 18.57 | 10.489 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 8:45:32 | 21.16 | 0.518 | 18.57 | 10.488 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 8:50:31 | 21.18 | 0.518 | 18.57 | 10.487 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 8:55:31 | 21.18 | 0.518 | 18.57 | 10.487 | 5.54 | 71.5 | -353 | 3.2 | 0.28 |
| 4/18/2012 | 9:00:31 | 21.18 | 0.518 | 18.57 | 10.488 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 9:05:31 | 21.18 | 0.518 | 18.57 | 10.488 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 9:10:31 | 21.17 | 0.518 | 18.57 | 10.485 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 9:15:31 | 21.16 | 0.518 | 18.56 | 10.481 | 5.54 | 71.5 | -354 | 3.2 | 0.29 |
| 4/18/2012 | 9:20:31 | 21.18 | 0.518 | 18.56 | 10.482 | 5.54 | 71.5 | -354 | 3.2 | 0.29 |
| 4/18/2012 | 9:25:31 | 21.19 | 0.518 | 18.56 | 10.482 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 9:30:31 | 21.2 | 0.518 | 18.57 | 10.485 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 9:35:31 | 21.22 | 0.519 | 18.57 | 10.488 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
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| 4/18/2012 | 9:45:31 | 21.22 | 0.518 | 18.57 | 10.488 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 9:50:31 | 21.22 | 0.518 | 18.57 | 10.49 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 9:55:31 | 21.19 | 0.518 | 18.57 | 10.487 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 10:00:31 | 21.21 | 0.518 | 18.57 | 10.489 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 10:05:31 | 21.22 | 0.518 | 18.57 | 10.49 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 10:10:31 | 21.23 | 0.518 | 18.57 | 10.491 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 10:15:31 | 21.24 | 0.518 | 18.57 | 10.493 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 10:20:31 | 21.17 | 0.518 | 18.57 | 10.485 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 10:25:31 | 21.21 | 0.517 | 18.57 | 10.487 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 10:30:31 | 21.22 | 0.518 | 18.57 | 10.486 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 10:35:31 | 21.24 | 0.518 | 18.57 | 10.488 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 10:40:31 | 21.25 | 0.518 | 18.57 | 10.489 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 10:45:31 | 21.25 | 0.517 | 18.57 | 10.492 | 5.54 | 71.4 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 10:50:31 | 21.25 | 0.517 | 18.57 | 10.492 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 10:55:31 | 21.25 | 0.517 | 18.57 | 10.489 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 11:00:31 | 21.25 | 0.517 | 18.57 | 10.486 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 11:05:31 | 21.24 | 0.517 | 18.56 | 10.484 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 11:10:31 | 21.24 | 0.517 | 18.56 | 10.483 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
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| 4/18/2012 | 11:30:31 | 21.23 | 0.518 | 18.56 | 10.482 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 11:35:31 | 21.22 | 0.518 | 18.56 | 10.482 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
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| 4/18/2012 | 11:50:31 | 21.23 | 0.518 | 18.57 | 10.485 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 11:55:31 | 21.23 | 0.518 | 18.57 | 10.487 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 12:00:31 | 21.23 | 0.518 | 18.57 | 10.488 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 12:05:31 | 21.23 | 0.518 | 18.57 | 10.488 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 12:10:31 | 21.23 | 0.518 | 18.57 | 10.488 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 12:15:31 | 21.23 | 0.518 | 18.57 | 10.487 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 12:20:31 | 21.23 | 0.518 | 18.57 | 10.485 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 12:25:31 | 21.23 | 0.518 | 18.56 | 10.484 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 12:30:31 | 21.23 | 0.518 | 18.56 | 10.479 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 12:35:31 | 21.22 | 0.518 | 18.56 | 10.474 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 12:40:31 | 21.22 | 0.518 | 18.56 | 10.471 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 12:45:31 | 21.22 | 0.518 | 18.56 | 10.471 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 12:50:31 | 21.22 | 0.518 | 18.56 | 10.468 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 12:55:31 | 21.23 | 0.518 | 18.56 | 10.462 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 13:00:31 | 21.23 | 0.518 | 18.55 | 10.458 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 13:05:31 | 21.23 | 0.518 | 18.55 | 10.459 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 13:10:31 | 21.23 | 0.518 | 18.55 | 10.459 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 13:15:31 | 21.23 | 0.518 | 18.55 | 10.458 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 13:20:31 | 21.22 | 0.518 | 18.55 | 10.459 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 13:25:31 | 21.22 | 0.518 | 18.55 | 10.458 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 13:30:31 | 21.22 | 0.518 | 18.55 | 10.458 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 13:35:31 | 21.22 | 0.518 | 18.55 | 10.457 | 5.54 | 71.5 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 13:40:31 | 21.22 | 0.518 | 18.55 | 10.454 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 13:45:31 | 21.23 | 0.518 | 18.55 | 10.456 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 13:50:31 | 21.23 | 0.518 | 18.55 | 10.454 | 5.54 | 71.5 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 13:55:31 | 21.23 | 0.518 | 18.55 | 10.45 | 5.54 | 71.6 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 14:00:31 | 21.23 | 0.518 | 18.55 | 10.451 | 5.54 | 71.6 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 14:05:31 | 21.23 | 0.518 | 18.55 | 10.45 | 5.54 | 71.6 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 14:10:31 | 21.22 | 0.517 | 18.55 | 10.448 | 5.54 | 71.6 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 14:15:31 | 21.2 | 0.516 | 18.55 | 10.447 | 5.54 | 71.6 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 14:20:31 | 21.2 | 0.517 | 18.55 | 10.446 | 5.54 | 71.6 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 14:25:31 | 21.21 | 0.517 | 18.55 | 10.448 | 5.54 | 71.6 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 14:30:31 | 21.22 | 0.517 | 18.55 | 10.448 | 5.54 | 71.6 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 14:35:31 | 21.23 | 0.517 | 18.55 | 10.448 | 5.54 | 71.6 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 14:40:31 | 21.24 | 0.516 | 18.55 | 10.449 | 5.54 | 71.6 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 14:45:31 | 21.24 | 0.516 | 18.55 | 10.448 | 5.54 | 71.6 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 14:50:31 | 21.24 | 0.516 | 18.55 | 10.448 | 5.54 | 71.6 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 14:55:31 | 21.24 | 0.516 | 18.55 | 10.442 | 5.54 | 71.6 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:00:31 | 21.24 | 0.517 | 18.55 | 10.444 | 5.54 | 71.6 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:05:31 | 21.24 | 0.517 | 18.55 | 10.446 | 5.54 | 71.6 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:10:31 | 21.23 | 0.517 | 18.55 | 10.447 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:15:31 | 21.23 | 0.517 | 18.55 | 10.444 | 5.54 | 71.6 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:20:31 | 21.23 | 0.517 | 18.55 | 10.441 | 5.54 | 71.6 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:25:31 | 21.26 | 0.516 | 18.54 | 10.437 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:30:31 | 21.25 | 0.517 | 18.54 | 10.436 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:35:31 | 21.26 | 0.517 | 18.54 | 10.433 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:40:31 | 21.27 | 0.517 | 18.54 | 10.431 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:45:31 | 21.27 | 0.517 | 18.54 | 10.432 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:50:31 | 21.27 | 0.517 | 18.54 | 10.429 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 15:55:31 | 21.27 | 0.517 | 18.54 | 10.429 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 16:00:31 | 21.27 | 0.517 | 18.54 | 10.429 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 16:05:31 | 21.24 | 0.516 | 18.54 | 10.429 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 16:10:31 | 21.25 | 0.516 | 18.54 | 10.427 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 16:15:31 | 21.22 | 0.517 | 18.54 | 10.423 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 16:20:31 | 21.11 | 0.515 | 18.53 | 10.401 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 16:25:31 | 21.05 | 0.516 | 18.53 | 10.413 | 5.53 | 71.8 | -351 | 3.2 | 0.29 |
| 4/18/2012 | 16:30:31 | 21.11 | 0.517 | 18.54 | 10.418 | 5.54 | 71.7 | -352 | 3.2 | 0.28 |
| 4/18/2012 | 16:35:31 | 21.17 | 0.517 | 18.54 | 10.417 | 5.54 | 71.7 | -352 | 3.2 | 0.28 |
| 4/18/2012 | 16:40:31 | 21.18 | 0.518 | 18.54 | 10.418 | 5.54 | 71.7 | -352 | 3.2 | 0.28 |
| 4/18/2012 | 16:45:31 | 21.22 | 0.517 | 18.54 | 10.418 | 5.54 | 71.8 | -352 | 3.2 | 0.28 |
| 4/18/2012 | 16:50:31 | 21.23 | 0.517 | 18.54 | 10.419 | 5.54 | 71.8 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 16:55:31 | 21.24 | 0.517 | 18.54 | 10.42 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 17:00:31 | 21.25 | 0.517 | 18.54 | 10.422 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 17:05:31 | 21.24 | 0.517 | 18.54 | 10.42 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 17:10:31 | 21.23 | 0.517 | 18.54 | 10.421 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 17:15:31 | 21.2 | 0.516 | 18.54 | 10.421 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 17:20:31 | 21.21 | 0.516 | 18.54 | 10.418 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 17:25:31 | 21.23 | 0.517 | 18.54 | 10.419 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 17:30:31 | 21.25 | 0.516 | 18.54 | 10.421 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 17:35:31 | 21.25 | 0.516 | 18.54 | 10.421 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 17:40:31 | 21.25 | 0.516 | 18.54 | 10.423 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 17:45:31 | 21.26 | 0.516 | 18.54 | 10.422 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 17:50:31 | 21.25 | 0.515 | 18.54 | 10.422 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 17:55:31 | 21.22 | 0.515 | 18.54 | 10.421 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 18:00:31 | 21.25 | 0.517 | 18.54 | 10.42 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 18:05:31 | 21.25 | 0.517 | 18.54 | 10.419 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 18:10:31 | 21.26 | 0.517 | 18.54 | 10.418 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 18:15:31 | 21.26 | 0.517 | 18.54 | 10.419 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 18:20:31 | 21.26 | 0.517 | 18.54 | 10.42 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 18:25:31 | 21.26 | 0.517 | 18.54 | 10.421 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 18:30:31 | 21.26 | 0.516 | 18.54 | 10.418 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 18:35:31 | 21.25 | 0.517 | 18.54 | 10.421 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 18:40:31 | 21.23 | 0.517 | 18.54 | 10.421 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 18:45:31 | 21.15 | 0.516 | 18.54 | 10.421 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 18:50:31 | 21.21 | 0.515 | 18.54 | 10.422 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 18:55:31 | 21.21 | 0.516 | 18.54 | 10.422 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 19:00:31 | 21.24 | 0.516 | 18.54 | 10.421 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 19:05:31 | 21.25 | 0.516 | 18.54 | 10.422 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 19:10:31 | 21.23 | 0.516 | 18.54 | 10.421 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 19:15:31 | 21.21 | 0.516 | 18.54 | 10.42 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 19:20:31 | 21.22 | 0.516 | 18.54 | 10.421 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 19:25:31 | 21.22 | 0.517 | 18.54 | 10.423 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 19:30:31 | 21.23 | 0.517 | 18.54 | 10.42 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 19:35:31 | 21.24 | 0.517 | 18.54 | 10.424 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 19:40:31 | 21.26 | 0.517 | 18.54 | 10.424 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 19:45:31 | 21.23 | 0.517 | 18.54 | 10.424 | 5.54 | 71.7 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 19:50:31 | 21.23 | 0.517 | 18.54 | 10.426 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 19:55:31 | 21.24 | 0.517 | 18.54 | 10.425 | 5.54 | 71.7 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 20:00:31 | 21.24 | 0.517 | 18.54 | 10.426 | 5.54 | 71.8 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 20:05:31 | 21.24 | 0.517 | 18.54 | 10.423 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 20:10:31 | 21.24 | 0.517 | 18.54 | 10.427 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 20:15:31 | 21.24 | 0.517 | 18.54 | 10.428 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 20:20:31 | 21.24 | 0.517 | 18.54 | 10.43 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 20:25:31 | 21.23 | 0.517 | 18.54 | 10.429 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 20:30:31 | 21.23 | 0.517 | 18.54 | 10.427 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 20:35:31 | 21.22 | 0.517 | 18.54 | 10.429 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 20:40:31 | 21.23 | 0.517 | 18.54 | 10.431 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 20:45:31 | 21.22 | 0.517 | 18.54 | 10.43 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 20:50:31 | 21.27 | 0.515 | 18.54 | 10.428 | 5.54 | 71.8 | -356 | 3.2 | 0.28 |
| 4/18/2012 | 20:55:31 | 21.27 | 0.516 | 18.54 | 10.425 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 21:00:31 | 21.28 | 0.516 | 18.54 | 10.427 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 21:05:31 | 21.28 | 0.516 | 18.54 | 10.431 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 21:10:31 | 21.27 | 0.516 | 18.54 | 10.433 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 21:15:31 | 21.26 | 0.517 | 18.54 | 10.432 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 21:20:31 | 21.24 | 0.517 | 18.54 | 10.436 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 21:25:31 | 21.24 | 0.517 | 18.54 | 10.433 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 21:30:31 | 21.25 | 0.517 | 18.54 | 10.435 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 21:35:31 | 21.25 | 0.517 | 18.54 | 10.437 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 21:40:31 | 21.25 | 0.517 | 18.54 | 10.438 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 21:45:31 | 21.26 | 0.517 | 18.55 | 10.438 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 21:50:31 | 21.19 | 0.515 | 18.54 | 10.435 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 21:55:31 | 21.21 | 0.516 | 18.54 | 10.437 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/18/2012 | 22:00:31 | 21.24 | 0.516 | 18.54 | 10.435 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 22:05:31 | 21.25 | 0.516 | 18.54 | 10.437 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 22:10:31 | 21.23 | 0.517 | 18.55 | 10.441 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 22:15:31 | 21.24 | 0.517 | 18.55 | 10.442 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 22:20:31 | 21.24 | 0.516 | 18.55 | 10.44 | 5.54 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 22:25:32 | 21.26 | 0.516 | 18.55 | 10.439 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 22:30:31 | 21.26 | 0.516 | 18.55 | 10.44 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 22:35:31 | 21.27 | 0.517 | 18.55 | 10.439 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 22:40:31 | 21.27 | 0.517 | 18.55 | 10.439 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 22:45:31 | 21.27 | 0.515 | 18.54 | 10.437 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 22:50:31 | 21.27 | 0.516 | 18.54 | 10.435 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 22:55:31 | 21.24 | 0.516 | 18.54 | 10.437 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
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| 4/18/2012 | 23:05:31 | 21.25 | 0.517 | 18.54 | 10.434 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 23:10:31 | 21.24 | 0.517 | 18.54 | 10.433 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 23:15:31 | 21.26 | 0.516 | 18.54 | 10.435 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 23:20:31 | 21.26 | 0.515 | 18.54 | 10.435 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 23:25:31 | 21.26 | 0.514 | 18.54 | 10.435 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 23:30:31 | 21.25 | 0.514 | 18.54 | 10.436 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 23:35:31 | 21.24 | 0.515 | 18.54 | 10.434 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 23:40:31 | 21.26 | 0.515 | 18.54 | 10.434 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 23:45:31 | 21.25 | 0.516 | 18.54 | 10.434 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 23:50:31 | 21.25 | 0.516 | 18.54 | 10.434 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/18/2012 | 23:55:31 | 21.23 | 0.517 | 18.54 | 10.434 | 5.53 | 71.8 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 0:00:31 | 21.24 | 0.516 | 18.54 | 10.434 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 0:05:31 | 21.24 | 0.516 | 18.54 | 10.432 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 0:10:31 | 21.24 | 0.516 | 18.54 | 10.427 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 0:15:31 | 21.25 | 0.516 | 18.54 | 10.423 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 0:20:31 | 21.24 | 0.516 | 18.54 | 10.423 | 5.53 | 71.9 | -354 | 3.2 | 0.28 |
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| 4/19/2012 | 0:30:31 | 21.23 | 0.516 | 18.54 | 10.426 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 0:35:31 | 21.23 | 0.516 | 18.54 | 10.427 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 0:40:31 | 21.23 | 0.516 | 18.54 | 10.421 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 0:45:31 | 21.23 | 0.516 | 18.54 | 10.422 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 0:50:31 | 21.24 | 0.516 | 18.54 | 10.423 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 0:55:31 | 21.24 | 0.516 | 18.54 | 10.422 | 5.53 | 71.8 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 1:00:31 | 21.24 | 0.516 | 18.54 | 10.421 | 5.53 | 71.9 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 1:05:31 | 21.24 | 0.516 | 18.54 | 10.42 | 5.53 | 71.9 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 1:10:31 | 21.24 | 0.516 | 18.54 | 10.418 | 5.53 | 71.9 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 1:15:31 | 21.24 | 0.516 | 18.54 | 10.419 | 5.53 | 71.9 | -355 | 3.2 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/19/2012 | 1:20:31 | 21.24 | 0.516 | 18.54 | 10.418 | 5.53 | 71.9 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 1:25:31 | 21.24 | 0.516 | 18.54 | 10.418 | 5.53 | 71.9 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 1:30:31 | 21.26 | 0.516 | 18.54 | 10.417 | 5.53 | 71.9 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 1:35:31 | 21.27 | 0.515 | 18.54 | 10.418 | 5.53 | 71.9 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 1:40:31 | 21.27 | 0.515 | 18.53 | 10.414 | 5.53 | 71.9 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 1:45:31 | 21.28 | 0.515 | 18.53 | 10.412 | 5.53 | 71.9 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 1:50:31 | 21.28 | 0.516 | 18.53 | 10.412 | 5.53 | 71.9 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 1:55:31 | 21.28 | 0.515 | 18.53 | 10.412 | 5.53 | 71.9 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 2:00:31 | 21.28 | 0.515 | 18.53 | 10.41 | 5.53 | 71.9 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 2:05:31 | 21.27 | 0.515 | 18.53 | 10.41 | 5.53 | 71.9 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 2:10:31 | 21.26 | 0.515 | 18.53 | 10.406 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 2:15:31 | 21.27 | 0.514 | 18.53 | 10.407 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 2:20:31 | 21.25 | 0.515 | 18.53 | 10.403 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 2:25:31 | 21.25 | 0.516 | 18.53 | 10.403 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 2:30:31 | 21.26 | 0.516 | 18.53 | 10.402 | 5.53 | 71.9 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 2:35:31 | 21.26 | 0.516 | 18.53 | 10.402 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 2:40:31 | 21.22 | 0.515 | 18.53 | 10.402 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 2:45:31 | 21.23 | 0.515 | 18.53 | 10.404 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 2:50:31 | 21.23 | 0.515 | 18.53 | 10.404 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 2:55:31 | 21.25 | 0.515 | 18.53 | 10.401 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 3:00:31 | 21.25 | 0.515 | 18.53 | 10.4 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 3:05:31 | 21.26 | 0.515 | 18.53 | 10.399 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 3:10:31 | 21.27 | 0.515 | 18.53 | 10.397 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 3:15:31 | 21.28 | 0.515 | 18.53 | 10.398 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 3:20:31 | 21.29 | 0.515 | 18.53 | 10.401 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 3:25:31 | 21.28 | 0.516 | 18.53 | 10.402 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 3:30:31 | 21.28 | 0.516 | 18.53 | 10.403 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 3:35:31 | 21.27 | 0.516 | 18.53 | 10.402 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 3:40:31 | 21.23 | 0.516 | 18.53 | 10.4 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 3:45:31 | 21.2 | 0.515 | 18.53 | 10.399 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 3:50:31 | 21.19 | 0.515 | 18.53 | 10.4 | 5.53 | 72 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 3:55:31 | 21.22 | 0.515 | 18.53 | 10.401 | 5.53 | 72 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 4:00:31 | 21.25 | 0.514 | 18.53 | 10.402 | 5.53 | 72 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 4:05:31 | 21.26 | 0.514 | 18.53 | 10.399 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 4:10:31 | 21.26 | 0.514 | 18.53 | 10.396 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 4:15:31 | 21.26 | 0.514 | 18.53 | 10.395 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 4:20:31 | 21.25 | 0.515 | 18.53 | 10.395 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 4:25:31 | 21.25 | 0.515 | 18.53 | 10.396 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 4:30:31 | 21.24 | 0.514 | 18.53 | 10.395 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 4:35:31 | 21.28 | 0.514 | 18.53 | 10.393 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 4:40:31 | 21.27 | 0.515 | 18.53 | 10.392 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 4:45:31 | 21.28 | 0.515 | 18.52 | 10.391 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 4:50:31 | 21.28 | 0.515 | 18.52 | 10.39 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 4:55:31 | 21.27 | 0.515 | 18.53 | 10.392 | 5.53 | 72 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 5:00:31 | 21.26 | 0.514 | 18.53 | 10.396 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 5:05:31 | 21.26 | 0.514 | 18.53 | 10.396 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 5:10:31 | 21.26 | 0.513 | 18.53 | 10.394 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 5:15:31 | 21.19 | 0.513 | 18.53 | 10.392 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 5:20:31 | 21.22 | 0.514 | 18.53 | 10.393 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 5:25:31 | 21.17 | 0.514 | 18.52 | 10.391 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 5:30:31 | 21.22 | 0.514 | 18.52 | 10.39 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 5:35:31 | 21.22 | 0.515 | 18.52 | 10.389 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 5:40:31 | 21.25 | 0.514 | 18.52 | 10.388 | 5.53 | 72 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 5:45:32 | 21.26 | 0.514 | 18.52 | 10.383 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 5:50:31 | 21.25 | 0.515 | 18.52 | 10.38 | 5.53 | 72 | -355 | 3.2 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/19/2012 | 5:55:31 | 21.26 | 0.515 | 18.52 | 10.382 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:00:31 | 21.26 | 0.515 | 18.52 | 10.381 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:05:31 | 21.27 | 0.514 | 18.52 | 10.379 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:10:31 | 21.27 | 0.514 | 18.52 | 10.384 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:15:31 | 21.23 | 0.514 | 18.52 | 10.388 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:20:31 | 21.21 | 0.514 | 18.52 | 10.389 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:25:32 | 21.21 | 0.515 | 18.52 | 10.39 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:30:31 | 21.22 | 0.515 | 18.53 | 10.392 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:35:31 | 21.22 | 0.514 | 18.52 | 10.391 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:40:31 | 21.22 | 0.514 | 18.52 | 10.39 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:45:31 | 21.24 | 0.514 | 18.52 | 10.391 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:50:31 | 21.23 | 0.515 | 18.53 | 10.394 | 5.53 | 72 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 6:55:31 | 21.24 | 0.514 | 18.53 | 10.393 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 7:00:31 | 21.26 | 0.514 | 18.53 | 10.394 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 7:05:31 | 21.27 | 0.514 | 18.53 | 10.395 | 5.53 | 72.1 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 7:10:31 | 21 | 0.513 | 18.52 | 10.373 | 5.53 | 72.1 | -350 | 3.2 | 0.29 |
| 4/19/2012 | 7:15:31 | 21.06 | 0.513 | 18.53 | 10.397 | 5.53 | 72.2 | -350 | 3.2 | 0.29 |
| 4/19/2012 | 7:20:31 | 21.16 | 0.514 | 18.52 | 10.389 | 5.53 | 72.1 | -352 | 3.2 | 0.28 |
| 4/19/2012 | 7:25:31 | 21.18 | 0.513 | 18.52 | 10.385 | 5.53 | 72.1 | -353 | 3.2 | 0.28 |
| 4/19/2012 | 7:30:31 | 21.21 | 0.514 | 18.52 | 10.382 | 5.53 | 72.1 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 7:35:31 | 21.22 | 0.514 | 18.52 | 10.383 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 7:40:31 | 21.24 | 0.514 | 18.52 | 10.383 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 7:45:31 | 21.25 | 0.515 | 18.52 | 10.383 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 7:50:31 | 21.24 | 0.515 | 18.52 | 10.385 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 7:55:31 | 21.24 | 0.515 | 18.52 | 10.387 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:00:31 | 21.23 | 0.515 | 18.52 | 10.387 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:05:31 | 21.23 | 0.515 | 18.52 | 10.388 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:10:31 | 21.23 | 0.515 | 18.52 | 10.388 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:15:31 | 21.24 | 0.515 | 18.52 | 10.389 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:20:31 | 21.21 | 0.515 | 18.52 | 10.391 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:25:31 | 21.27 | 0.514 | 18.53 | 10.395 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:30:32 | 21.25 | 0.513 | 18.53 | 10.393 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:35:31 | 21.27 | 0.513 | 18.53 | 10.394 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:40:31 | 21.26 | 0.513 | 18.53 | 10.395 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:45:31 | 21.27 | 0.513 | 18.53 | 10.395 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:50:31 | 21.27 | 0.514 | 18.53 | 10.396 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 8:55:31 | 21.26 | 0.513 | 18.53 | 10.394 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 9:00:31 | 21.22 | 0.513 | 18.53 | 10.395 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 9:05:31 | 21.21 | 0.514 | 18.53 | 10.399 | 5.53 | 72 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 9:10:31 | 21.22 | 0.514 | 18.53 | 10.401 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 9:15:31 | 21.23 | 0.514 | 18.53 | 10.404 | 5.53 | 72.1 | -354 | 3.2 | 0.28 |
| 4/19/2012 | 9:20:31 | 21.25 | 0.514 | 18.53 | 10.403 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 9:25:31 | 21.26 | 0.514 | 18.53 | 10.402 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 9:30:31 | 21.24 | 0.514 | 18.53 | 10.407 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 9:35:31 | 21.24 | 0.514 | 18.53 | 10.41 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 9:40:31 | 21.26 | 0.514 | 18.53 | 10.409 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 9:45:31 | 21.26 | 0.513 | 18.53 | 10.41 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 9:50:31 | 21.26 | 0.513 | 18.53 | 10.411 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 9:55:31 | 21.26 | 0.513 | 18.53 | 10.413 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 10:00:31 | 21.26 | 0.513 | 18.54 | 10.415 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 10:05:31 | 21.26 | 0.513 | 18.53 | 10.414 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 10:10:31 | 21.26 | 0.514 | 18.53 | 10.414 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 10:15:31 | 21.27 | 0.514 | 18.54 | 10.415 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 10:20:31 | 21.26 | 0.513 | 18.54 | 10.417 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 10:25:31 | 21.26 | 0.512 | 18.54 | 10.415 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/19/2012 | 10:30:31 | 21.26 | 0.512 | 18.54 | 10.416 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 10:35:31 | 21.25 | 0.513 | 18.54 | 10.419 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 10:40:31 | 21.25 | 0.513 | 18.54 | 10.416 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 10:45:31 | 21.25 | 0.513 | 18.54 | 10.418 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 10:50:31 | 21.25 | 0.514 | 18.54 | 10.417 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 10:55:31 | 21.25 | 0.514 | 18.54 | 10.417 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 11:00:31 | 21.25 | 0.514 | 18.54 | 10.417 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 11:05:31 | 21.25 | 0.514 | 18.54 | 10.418 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 11:10:31 | 21.25 | 0.514 | 18.54 | 10.418 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 11:15:31 | 21.25 | 0.514 | 18.54 | 10.418 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 11:20:31 | 21.24 | 0.514 | 18.54 | 10.42 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 11:25:31 | 21.24 | 0.514 | 18.54 | 10.42 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 11:30:31 | 21.24 | 0.514 | 18.54 | 10.418 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 11:35:31 | 21.24 | 0.514 | 18.54 | 10.419 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 11:40:31 | 21.25 | 0.514 | 18.54 | 10.421 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 11:45:31 | 21.25 | 0.514 | 18.54 | 10.42 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 11:50:31 | 21.25 | 0.514 | 18.54 | 10.423 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 11:55:31 | 21.25 | 0.514 | 18.54 | 10.422 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 12:00:31 | 21.25 | 0.514 | 18.54 | 10.421 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 12:05:31 | 21.25 | 0.513 | 18.54 | 10.421 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 12:10:31 | 21.28 | 0.513 | 18.54 | 10.42 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 12:15:31 | 21.27 | 0.513 | 18.54 | 10.418 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 12:20:31 | 21.27 | 0.513 | 18.54 | 10.42 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 12:25:31 | 21.28 | 0.513 | 18.54 | 10.417 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 12:30:31 | 21.28 | 0.513 | 18.54 | 10.416 | 5.53 | 72.1 | -356 | 3.2 | 0.28 |
| 4/19/2012 | 12:35:31 | 21.26 | 0.513 | 18.53 | 10.414 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |
| 4/19/2012 | 12:40:31 | 21.24 | 0.513 | 18.54 | 10.414 | 5.53 | 72.1 | -355 | 3.2 | 0.28 |

VOPAK-7-PAN-MW-9

| Date | Time | Temp | SpCond | PressureA | Depth | pH | pHmV | ORP | ODO% | ODO Conc |
|---|---|---|---|---|---|---|---|---|---|---|
| M/D/Y | hh:mm:ss | C | mS/cm | psia | ft | | mV | mV | % | mg/L |
| 4/12/2012 | 13:45:16 | 23.8 | 0.001 | 15.8 | 1.596 | 7.3 | -47.1 | 156 | 85.3 | 7.21 |
| 4/12/2012 | 13:50:33 | 23.67 | 0.001 | 15.8 | 1.597 | 7.26 | -44.7 | 164 | 85.4 | 7.23 |
| 4/12/2012 | 13:55:33 | 23.6 | 0.001 | 15.8 | 1.598 | 7.24 | -43.6 | 167 | 85.6 | 7.26 |
| 4/12/2012 | 14:00:33 | 23.52 | 0.001 | 15.8 | 1.601 | 7.2 | -41.1 | 156 | 85.6 | 7.27 |
| 4/12/2012 | 14:05:33 | 23.5 | 0.001 | 15.8 | 1.603 | 7.22 | -42.3 | 159 | 85.7 | 7.28 |
| 4/12/2012 | 14:10:33 | 23.55 | 0.001 | 15.8 | 1.597 | 7.23 | -43.2 | 160 | 85.9 | 7.29 |
| 4/12/2012 | 14:15:33 | 23.62 | 0.001 | 15.8 | 1.595 | 7.25 | -43.8 | 162 | 86.1 | 7.3 |
| 4/12/2012 | 14:20:33 | 23.7 | 0.001 | 15.8 | 1.596 | 7.25 | -44.1 | 163 | 86.2 | 7.3 |
| 4/12/2012 | 14:25:33 | 23.78 | 0.001 | 15.81 | 1.619 | 7.25 | -44.2 | 164 | 86.3 | 7.3 |
| 4/12/2012 | 14:30:33 | 23.85 | 0.001 | 15.8 | 1.591 | 7.25 | -44.3 | 165 | 86.4 | 7.3 |
| 4/12/2012 | 14:35:33 | 23.92 | 0.001 | 15.8 | 1.586 | 7.25 | -44.1 | 165 | 86.6 | 7.3 |
| 4/12/2012 | 14:40:33 | 23.97 | 0.001 | 15.8 | 1.589 | 7.25 | -44.1 | 165 | 86.7 | 7.3 |
| 4/12/2012 | 14:45:33 | 24.02 | 0.001 | 15.8 | 1.584 | 7.27 | -44.9 | 165 | 86.7 | 7.3 |
| 4/12/2012 | 14:50:33 | 23.89 | 0.001 | 15.79 | 1.578 | 7.2 | -41.3 | 158 | 86.8 | 7.32 |
| 4/12/2012 | 14:55:33 | 23.64 | 0.001 | 15.8 | 1.582 | 7.21 | -41.6 | 160 | 86.7 | 7.35 |
| 4/12/2012 | 15:00:33 | 23.66 | 0.001 | 15.8 | 1.584 | 7.27 | -45.1 | 158 | 86.6 | 7.33 |
| 4/12/2012 | 15:05:33 | 23.83 | 0.001 | 15.8 | 1.583 | 7.33 | -48.3 | 154 | 86.7 | 7.32 |
| 4/12/2012 | 15:10:33 | 24.14 | 0.001 | 15.79 | 1.577 | 7.32 | -47.9 | 154 | 86.7 | 7.28 |
| 4/12/2012 | 15:15:33 | 21.79 | 0 | 15.79 | 1.572 | 5.32 | 64 | 132 | 91.9 | 8.07 |
| 4/12/2012 | 15:20:32 | 18.96 | 0 | 15.79 | 1.577 | 6 | 25.5 | 463 | 94.9 | 8.81 |
| 4/12/2012 | 15:25:32 | 19.79 | 1.219 | 18.24 | 7.241 | 4.27 | 121.9 | -97 | 9.6 | 0.87 |
| 4/12/2012 | 15:30:32 | 19.88 | 1.227 | 18.05 | 6.807 | 4.03 | 135.4 | -129 | 7 | 0.63 |
| 4/12/2012 | 15:35:32 | 19.85 | 1.233 | 18 | 6.678 | 4.02 | 136 | -138 | 5.8 | 0.52 |
| 4/12/2012 | 15:40:32 | 19.82 | 1.235 | 17.97 | 6.621 | 4.02 | 135.9 | -135 | 5.2 | 0.48 |
| 4/12/2012 | 15:45:32 | 19.8 | 1.233 | 17.96 | 6.581 | 4.02 | 136 | -136 | 4.7 | 0.43 |
| 4/12/2012 | 15:50:32 | 19.78 | 1.231 | 17.95 | 6.559 | 4.02 | 136 | -136 | 4.4 | 0.4 |
| 4/12/2012 | 15:55:32 | 19.76 | 1.23 | 17.94 | 6.538 | 4.02 | 136 | -136 | 4.1 | 0.37 |
| 4/12/2012 | 16:00:32 | 19.76 | 1.229 | 17.93 | 6.52 | 4.03 | 135.6 | -136 | 3.9 | 0.36 |
| 4/12/2012 | 16:05:32 | 19.77 | 1.229 | 17.92 | 6.503 | 4.03 | 135.3 | -133 | 3.8 | 0.34 |
| 4/12/2012 | 16:10:32 | 19.76 | 1.229 | 17.92 | 6.489 | 4.03 | 135.3 | -124 | 3.7 | 0.34 |
| 4/12/2012 | 16:15:32 | 19.75 | 1.207 | 17.91 | 6.477 | 4.04 | 134.8 | -120 | 3.7 | 0.33 |
| 4/12/2012 | 16:20:32 | 19.74 | 1.207 | 17.91 | 6.467 | 4.03 | 135.5 | -118 | 3.6 | 0.33 |
| 4/12/2012 | 16:25:32 | 19.74 | 1.205 | 17.9 | 6.455 | 4.02 | 136.1 | -116 | 3.5 | 0.32 |
| 4/12/2012 | 16:30:32 | 19.73 | 1.206 | 17.9 | 6.447 | 3.98 | 138.3 | -119 | 3.5 | 0.32 |
| 4/12/2012 | 16:35:32 | 19.73 | 1.206 | 17.9 | 6.439 | 3.98 | 138.2 | -113 | 3.5 | 0.32 |
| 4/12/2012 | 16:40:32 | 19.72 | 1.206 | 17.89 | 6.432 | 3.97 | 138.4 | -110 | 3.4 | 0.31 |
| 4/12/2012 | 16:45:32 | 19.71 | 1.206 | 17.89 | 6.421 | 3.97 | 138.8 | -113 | 3.4 | 0.31 |
| 4/12/2012 | 16:50:32 | 19.72 | 1.206 | 17.88 | 6.411 | 3.96 | 139 | -112 | 3.3 | 0.3 |
| 4/12/2012 | 16:55:33 | 19.78 | 1.208 | 17.88 | 6.406 | 3.97 | 138.8 | -111 | 3.3 | 0.3 |
| 4/12/2012 | 17:00:33 | 19.75 | 1.21 | 17.88 | 6.4 | 3.97 | 138.4 | -109 | 3.2 | 0.29 |
| 4/12/2012 | 17:05:32 | 19.74 | 1.213 | 17.87 | 6.389 | 3.97 | 138.4 | -108 | 3.2 | 0.29 |
| 4/12/2012 | 17:10:33 | 19.74 | 1.211 | 17.87 | 6.387 | 3.97 | 138.4 | -108 | 3.2 | 0.29 |
| 4/12/2012 | 17:15:32 | 19.76 | 1.211 | 17.87 | 6.382 | 3.97 | 138.5 | -109 | 3.2 | 0.29 |
| 4/12/2012 | 17:20:33 | 19.76 | 1.213 | 17.87 | 6.382 | 3.98 | 138.2 | -108 | 3.2 | 0.29 |
| 4/12/2012 | 17:25:32 | 19.77 | 1.215 | 17.87 | 6.381 | 3.98 | 138.2 | -106 | 3.2 | 0.29 |
| 4/12/2012 | 17:30:33 | 19.76 | 1.215 | 17.87 | 6.377 | 3.98 | 138.2 | -106 | 3.1 | 0.29 |
| 4/12/2012 | 17:35:32 | 19.74 | 1.215 | 17.87 | 6.373 | 3.98 | 137.9 | -106 | 3.1 | 0.28 |
| 4/12/2012 | 17:40:33 | 19.74 | 1.214 | 17.87 | 6.371 | 3.99 | 137.7 | -106 | 3.1 | 0.28 |
| 4/12/2012 | 17:45:33 | 19.73 | 1.214 | 17.86 | 6.366 | 3.99 | 137.7 | -107 | 3.1 | 0.28 |
| 4/12/2012 | 17:50:33 | 19.73 | 1.213 | 17.86 | 6.367 | 3.99 | 137.7 | -107 | 3.1 | 0.28 |
| 4/12/2012 | 17:55:32 | 19.72 | 1.213 | 17.86 | 6.362 | 3.99 | 137.6 | -106 | 3.1 | 0.28 |
| 4/12/2012 | 18:00:33 | 19.76 | 1.215 | 17.86 | 6.364 | 3.99 | 137.5 | -101 | 3.1 | 0.28 |
| 4/12/2012 | 18:05:33 | 19.79 | 1.214 | 17.86 | 6.361 | 4 | 137.1 | -103 | 3 | 0.28 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/12/2012 | 18:10:33 | 19.77 | 1.215 | 17.86 | 6.367 | 4 | 137 | -104 | 3 | 0.28 |
| 4/12/2012 | 18:15:33 | 19.75 | 1.215 | 17.86 | 6.363 | 4 | 137.1 | -104 | 3 | 0.28 |
| 4/12/2012 | 18:20:33 | 19.74 | 1.215 | 17.86 | 6.359 | 3.99 | 137.3 | -105 | 3 | 0.28 |
| 4/12/2012 | 18:25:33 | 19.73 | 1.215 | 17.86 | 6.357 | 3.99 | 137.6 | -107 | 3 | 0.28 |
| 4/12/2012 | 18:30:33 | 19.73 | 1.214 | 17.86 | 6.354 | 4 | 137.3 | -107 | 3 | 0.28 |
| 4/12/2012 | 18:35:33 | 19.73 | 1.215 | 17.86 | 6.35 | 4 | 137 | -105 | 3 | 0.27 |
| 4/12/2012 | 18:40:33 | 19.75 | 1.216 | 17.85 | 6.345 | 4 | 136.8 | -105 | 3 | 0.27 |
| 4/12/2012 | 18:45:16 | 19.75 | 1.216 | 17.85 | 6.345 | 4.01 | 136.7 | -105 | 3 | 0.28 |
| 4/12/2012 | 18:50:33 | 19.76 | 1.216 | 17.85 | 6.34 | 4.01 | 136.5 | -104 | 3 | 0.27 |
| 4/12/2012 | 18:55:33 | 19.77 | 1.216 | 17.85 | 6.335 | 4.01 | 136.4 | -104 | 3 | 0.27 |
| 4/12/2012 | 19:00:33 | 19.75 | 1.216 | 17.85 | 6.337 | 4.01 | 136.3 | -104 | 3 | 0.27 |
| 4/12/2012 | 19:05:32 | 19.76 | 1.216 | 17.85 | 6.337 | 4.01 | 136.2 | -103 | 3 | 0.27 |
| 4/12/2012 | 19:10:32 | 19.79 | 1.215 | 17.85 | 6.334 | 4.02 | 136.2 | -102 | 3 | 0.27 |
| 4/12/2012 | 19:15:32 | 19.78 | 1.215 | 17.85 | 6.338 | 4.02 | 136 | -103 | 3 | 0.27 |
| 4/12/2012 | 19:20:33 | 19.78 | 1.215 | 17.85 | 6.339 | 4.02 | 136 | -103 | 3 | 0.27 |
| 4/12/2012 | 19:25:33 | 19.79 | 1.215 | 17.85 | 6.338 | 4.02 | 135.9 | -103 | 3 | 0.27 |
| 4/12/2012 | 19:30:33 | 19.8 | 1.215 | 17.85 | 6.334 | 4.02 | 135.9 | -103 | 3 | 0.27 |
| 4/12/2012 | 19:35:33 | 19.77 | 1.216 | 17.85 | 6.334 | 4.02 | 135.9 | -103 | 3 | 0.27 |
| 4/12/2012 | 19:40:32 | 19.76 | 1.215 | 17.85 | 6.329 | 4.02 | 135.9 | -103 | 3 | 0.27 |
| 4/12/2012 | 19:45:32 | 19.76 | 1.215 | 17.85 | 6.327 | 4.02 | 135.9 | -105 | 3 | 0.27 |
| 4/12/2012 | 19:50:33 | 19.75 | 1.215 | 17.85 | 6.327 | 4.02 | 136 | -105 | 3 | 0.27 |
| 4/12/2012 | 19:55:32 | 19.74 | 1.214 | 17.85 | 6.329 | 4.02 | 135.9 | -105 | 3 | 0.27 |
| 4/12/2012 | 20:00:32 | 19.73 | 1.214 | 17.85 | 6.331 | 4.02 | 135.8 | -105 | 3 | 0.27 |
| 4/12/2012 | 20:05:33 | 19.73 | 1.214 | 17.85 | 6.331 | 4.02 | 135.8 | -106 | 3 | 0.27 |
| 4/12/2012 | 20:10:32 | 19.72 | 1.214 | 17.85 | 6.333 | 4.02 | 135.8 | -106 | 3 | 0.27 |
| 4/12/2012 | 20:15:33 | 19.72 | 1.213 | 17.85 | 6.333 | 4.02 | 135.8 | -105 | 2.9 | 0.27 |
| 4/12/2012 | 20:20:33 | 19.75 | 1.17 | 17.85 | 6.337 | 4.02 | 135.8 | -94 | 2.9 | 0.27 |
| 4/12/2012 | 20:25:32 | 19.74 | 1.171 | 17.85 | 6.336 | 4.02 | 135.7 | -101 | 2.9 | 0.27 |
| 4/12/2012 | 20:30:32 | 19.75 | 1.174 | 17.85 | 6.335 | 4.02 | 135.7 | -102 | 2.9 | 0.27 |
| 4/12/2012 | 20:35:32 | 19.87 | 1.165 | 17.85 | 6.331 | 4.03 | 135.6 | -95 | 2.9 | 0.27 |
| 4/12/2012 | 20:40:32 | 19.84 | 1.165 | 17.85 | 6.332 | 4.03 | 135.5 | -100 | 2.9 | 0.27 |
| 4/12/2012 | 20:45:32 | 19.81 | 1.166 | 17.85 | 6.332 | 4.03 | 135.4 | -102 | 2.9 | 0.27 |
| 4/12/2012 | 20:50:32 | 19.78 | 1.167 | 17.85 | 6.333 | 4.03 | 135.5 | -103 | 2.9 | 0.27 |
| 4/12/2012 | 20:55:32 | 19.78 | 1.168 | 17.85 | 6.33 | 4.03 | 135.6 | -104 | 2.9 | 0.27 |
| 4/12/2012 | 21:00:32 | 19.75 | 1.169 | 17.85 | 6.331 | 4.03 | 135.6 | -105 | 2.9 | 0.27 |
| 4/12/2012 | 21:05:32 | 19.9 | 1.164 | 17.85 | 6.328 | 4.03 | 135.4 | -80 | 2.9 | 0.27 |
| 4/12/2012 | 21:10:33 | 19.85 | 1.163 | 17.85 | 6.328 | 4.03 | 135.3 | -93 | 2.9 | 0.27 |
| 4/12/2012 | 21:15:32 | 19.83 | 1.164 | 17.85 | 6.328 | 4.03 | 135.3 | -100 | 2.9 | 0.26 |
| 4/12/2012 | 21:20:32 | 19.86 | 1.165 | 17.85 | 6.323 | 4.03 | 135.3 | -102 | 2.9 | 0.27 |
| 4/12/2012 | 21:25:32 | 19.82 | 1.165 | 17.85 | 6.322 | 4.03 | 135.3 | -102 | 2.9 | 0.27 |
| 4/12/2012 | 21:30:33 | 19.82 | 1.165 | 17.84 | 6.32 | 4.03 | 135.2 | -102 | 2.9 | 0.27 |
| 4/12/2012 | 21:35:33 | 19.84 | 1.165 | 17.84 | 6.321 | 4.03 | 135.2 | -102 | 2.9 | 0.26 |
| 4/12/2012 | 21:40:32 | 19.81 | 1.165 | 17.84 | 6.32 | 4.04 | 135.1 | -102 | 2.9 | 0.27 |
| 4/12/2012 | 21:45:33 | 19.8 | 1.164 | 17.84 | 6.319 | 4.04 | 135.1 | -103 | 2.9 | 0.26 |
| 4/12/2012 | 21:50:33 | 19.83 | 1.165 | 17.85 | 6.323 | 4.04 | 135 | -100 | 2.9 | 0.26 |
| 4/12/2012 | 21:55:33 | 19.81 | 1.165 | 17.85 | 6.325 | 4.04 | 134.9 | -102 | 2.9 | 0.27 |
| 4/12/2012 | 22:00:33 | 19.8 | 1.165 | 17.84 | 6.32 | 4.04 | 134.9 | -102 | 2.9 | 0.26 |
| 4/12/2012 | 22:05:33 | 19.78 | 1.166 | 17.84 | 6.321 | 4.04 | 134.9 | -103 | 2.9 | 0.26 |
| 4/12/2012 | 22:10:32 | 19.77 | 1.167 | 17.84 | 6.319 | 4.04 | 134.9 | -104 | 2.9 | 0.26 |
| 4/12/2012 | 22:15:33 | 19.77 | 1.166 | 17.84 | 6.316 | 4.04 | 134.9 | -105 | 2.9 | 0.26 |
| 4/12/2012 | 22:20:32 | 19.79 | 1.165 | 17.84 | 6.314 | 4.04 | 134.9 | -100 | 2.9 | 0.26 |
| 4/12/2012 | 22:25:33 | 19.8 | 1.165 | 17.84 | 6.315 | 4.04 | 134.8 | -100 | 2.9 | 0.26 |
| 4/12/2012 | 22:30:33 | 19.79 | 1.164 | 17.84 | 6.313 | 4.04 | 134.8 | -102 | 2.9 | 0.26 |
| 4/12/2012 | 22:35:33 | 19.78 | 1.164 | 17.84 | 6.312 | 4.04 | 134.8 | -103 | 2.9 | 0.26 |
| 4/12/2012 | 22:40:32 | 19.78 | 1.164 | 17.84 | 6.311 | 4.04 | 134.8 | -104 | 2.9 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/12/2012 | 22:45:33 | 19.77 | 1.164 | 17.84 | 6.312 | 4.04 | 134.7 | -105 | 2.9 | 0.26 |
| 4/12/2012 | 22:50:33 | 19.77 | 1.164 | 17.84 | 6.312 | 4.04 | 134.7 | -104 | 2.9 | 0.26 |
| 4/12/2012 | 22:55:33 | 19.76 | 1.164 | 17.84 | 6.314 | 4.04 | 134.7 | -105 | 2.9 | 0.26 |
| 4/12/2012 | 23:00:33 | 19.77 | 1.163 | 17.84 | 6.31 | 4.04 | 134.7 | -104 | 2.9 | 0.26 |
| 4/12/2012 | 23:05:33 | 19.78 | 1.163 | 17.84 | 6.31 | 4.04 | 134.6 | -103 | 2.9 | 0.26 |
| 4/12/2012 | 23:10:33 | 19.79 | 1.162 | 17.84 | 6.312 | 4.04 | 134.6 | -102 | 2.9 | 0.26 |
| 4/12/2012 | 23:15:33 | 19.79 | 1.162 | 17.84 | 6.311 | 4.04 | 134.5 | -103 | 2.9 | 0.26 |
| 4/12/2012 | 23:20:33 | 19.79 | 1.162 | 17.84 | 6.308 | 4.04 | 134.5 | -103 | 2.9 | 0.26 |
| 4/12/2012 | 23:25:33 | 19.78 | 1.162 | 17.84 | 6.311 | 4.05 | 134.5 | -104 | 2.9 | 0.26 |
| 4/12/2012 | 23:30:32 | 19.76 | 1.162 | 17.84 | 6.313 | 4.05 | 134.5 | -105 | 2.9 | 0.26 |
| 4/12/2012 | 23:35:32 | 19.75 | 1.163 | 17.84 | 6.306 | 4.04 | 134.5 | -106 | 2.9 | 0.26 |
| 4/12/2012 | 23:40:33 | 19.81 | 1.171 | 17.84 | 6.308 | 4.04 | 134.6 | -100 | 2.9 | 0.26 |
| 4/12/2012 | 23:45:33 | 19.77 | 1.171 | 17.84 | 6.31 | 4.04 | 134.5 | -99 | 2.9 | 0.26 |
| 4/12/2012 | 23:50:33 | 19.77 | 1.17 | 17.84 | 6.307 | 4.05 | 134.5 | -103 | 2.9 | 0.26 |
| 4/12/2012 | 23:55:33 | 19.77 | 1.171 | 17.84 | 6.308 | 4.05 | 134.4 | -103 | 2.9 | 0.26 |
| 4/13/2012 | 0:00:33 | 19.77 | 1.17 | 17.84 | 6.304 | 4.05 | 134.4 | -103 | 2.9 | 0.26 |
| 4/13/2012 | 0:05:33 | 19.76 | 1.17 | 17.84 | 6.303 | 4.05 | 134.4 | -105 | 2.9 | 0.26 |
| 4/13/2012 | 0:10:33 | 19.75 | 1.17 | 17.84 | 6.302 | 4.05 | 134.4 | -107 | 2.9 | 0.26 |
| 4/13/2012 | 0:15:33 | 19.74 | 1.17 | 17.83 | 6.299 | 4.05 | 134.5 | -109 | 2.9 | 0.26 |
| 4/13/2012 | 0:20:32 | 19.73 | 1.17 | 17.83 | 6.298 | 4.05 | 134.5 | -109 | 2.9 | 0.26 |
| 4/13/2012 | 0:25:32 | 19.77 | 1.17 | 17.83 | 6.296 | 4.05 | 134.5 | -105 | 2.9 | 0.26 |
| 4/13/2012 | 0:30:32 | 19.78 | 1.168 | 17.83 | 6.294 | 4.05 | 134.3 | -99 | 2.9 | 0.26 |
| 4/13/2012 | 0:35:33 | 19.77 | 1.167 | 17.83 | 6.295 | 4.05 | 134.3 | -99 | 2.9 | 0.26 |
| 4/13/2012 | 0:40:33 | 19.78 | 1.167 | 17.83 | 6.294 | 4.05 | 134.3 | -102 | 2.9 | 0.26 |
| 4/13/2012 | 0:45:33 | 19.77 | 1.167 | 17.83 | 6.296 | 4.05 | 134.3 | -103 | 2.9 | 0.26 |
| 4/13/2012 | 0:50:33 | 19.77 | 1.167 | 17.83 | 6.297 | 4.05 | 134.2 | -105 | 2.9 | 0.26 |
| 4/13/2012 | 0:55:33 | 19.76 | 1.167 | 17.83 | 6.295 | 4.05 | 134.3 | -106 | 2.8 | 0.26 |
| 4/13/2012 | 1:00:32 | 19.76 | 1.167 | 17.83 | 6.292 | 4.05 | 134.2 | -107 | 2.8 | 0.26 |
| 4/13/2012 | 1:05:33 | 19.75 | 1.166 | 17.83 | 6.294 | 4.05 | 134.3 | -106 | 2.8 | 0.26 |
| 4/13/2012 | 1:10:33 | 19.77 | 1.166 | 17.83 | 6.291 | 4.05 | 134.2 | -105 | 2.8 | 0.26 |
| 4/13/2012 | 1:15:33 | 19.82 | 1.165 | 17.83 | 6.293 | 4.05 | 134.2 | -104 | 2.8 | 0.26 |
| 4/13/2012 | 1:20:33 | 19.83 | 1.166 | 17.83 | 6.289 | 4.05 | 134.1 | -98 | 2.8 | 0.26 |
| 4/13/2012 | 1:25:33 | 19.81 | 1.167 | 17.83 | 6.29 | 4.05 | 134 | -99 | 2.8 | 0.26 |
| 4/13/2012 | 1:30:32 | 19.82 | 1.167 | 17.83 | 6.291 | 4.06 | 134 | -101 | 2.8 | 0.26 |
| 4/13/2012 | 1:35:33 | 19.82 | 1.167 | 17.83 | 6.293 | 4.06 | 134 | -99 | 2.8 | 0.26 |
| 4/13/2012 | 1:40:33 | 19.82 | 1.169 | 17.83 | 6.289 | 4.06 | 134 | -100 | 2.8 | 0.26 |
| 4/13/2012 | 1:45:33 | 19.79 | 1.169 | 17.83 | 6.288 | 4.06 | 133.9 | -101 | 2.8 | 0.26 |
| 4/13/2012 | 1:50:33 | 19.8 | 1.17 | 17.83 | 6.288 | 4.06 | 133.9 | -103 | 2.8 | 0.26 |
| 4/13/2012 | 1:55:33 | 19.82 | 1.167 | 17.83 | 6.284 | 4.06 | 133.9 | -100 | 2.8 | 0.26 |
| 4/13/2012 | 2:00:32 | 19.87 | 1.166 | 17.83 | 6.285 | 4.06 | 133.9 | -99 | 2.8 | 0.26 |
| 4/13/2012 | 2:05:33 | 19.82 | 1.167 | 17.83 | 6.279 | 4.06 | 133.8 | -100 | 2.8 | 0.25 |
| 4/13/2012 | 2:10:33 | 19.83 | 1.17 | 17.83 | 6.278 | 4.06 | 133.8 | -101 | 2.8 | 0.26 |
| 4/13/2012 | 2:15:33 | 19.79 | 1.235 | 17.83 | 6.276 | 4.06 | 133.8 | -103 | 2.8 | 0.26 |
| 4/13/2012 | 2:20:32 | 19.78 | 1.238 | 17.83 | 6.275 | 4.06 | 133.9 | -104 | 2.8 | 0.26 |
| 4/13/2012 | 2:25:33 | 19.77 | 1.238 | 17.82 | 6.272 | 4.06 | 133.9 | -105 | 2.8 | 0.26 |
| 4/13/2012 | 2:30:32 | 19.83 | 1.235 | 17.82 | 6.271 | 4.06 | 133.8 | -105 | 2.8 | 0.26 |
| 4/13/2012 | 2:35:33 | 19.8 | 1.237 | 17.82 | 6.27 | 4.06 | 133.7 | -102 | 2.8 | 0.26 |
| 4/13/2012 | 2:40:33 | 19.8 | 1.236 | 17.82 | 6.267 | 4.06 | 133.7 | -103 | 2.8 | 0.26 |
| 4/13/2012 | 2:45:33 | 19.82 | 1.235 | 17.82 | 6.266 | 4.06 | 133.7 | -102 | 2.8 | 0.25 |
| 4/13/2012 | 2:50:33 | 19.78 | 1.235 | 17.82 | 6.266 | 4.06 | 133.7 | -103 | 2.8 | 0.26 |
| 4/13/2012 | 2:55:33 | 19.77 | 1.236 | 17.82 | 6.266 | 4.06 | 133.7 | -106 | 2.8 | 0.26 |
| 4/13/2012 | 3:00:33 | 19.84 | 1.235 | 17.82 | 6.264 | 4.06 | 133.8 | -105 | 2.8 | 0.25 |
| 4/13/2012 | 3:05:33 | 19.81 | 1.236 | 17.82 | 6.263 | 4.06 | 133.7 | -102 | 2.8 | 0.25 |
| 4/13/2012 | 3:10:32 | 19.84 | 1.237 | 17.82 | 6.263 | 4.06 | 133.7 | -103 | 2.8 | 0.26 |
| 4/13/2012 | 3:15:33 | 19.8 | 1.238 | 17.82 | 6.258 | 4.06 | 133.7 | -102 | 2.8 | 0.25 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 3:20:33 | 19.82 | 1.238 | 17.82 | 6.259 | 4.06 | 133.6 | -100 | 2.8 | 0.25 |
| 4/13/2012 | 3:25:33 | 19.83 | 1.237 | 17.82 | 6.262 | 4.06 | 133.6 | -101 | 2.8 | 0.26 |
| 4/13/2012 | 3:30:33 | 19.8 | 1.238 | 17.82 | 6.262 | 4.06 | 133.5 | -103 | 2.8 | 0.25 |
| 4/13/2012 | 3:35:33 | 19.79 | 1.238 | 17.82 | 6.258 | 4.06 | 133.6 | -105 | 2.8 | 0.25 |
| 4/13/2012 | 3:40:33 | 19.78 | 1.238 | 17.82 | 6.258 | 4.06 | 133.5 | -104 | 2.8 | 0.26 |
| 4/13/2012 | 3:45:33 | 19.83 | 1.236 | 17.82 | 6.259 | 4.06 | 133.5 | -105 | 2.8 | 0.25 |
| 4/13/2012 | 3:50:33 | 19.79 | 1.238 | 17.82 | 6.257 | 4.06 | 133.5 | -102 | 2.8 | 0.25 |
| 4/13/2012 | 3:55:33 | 19.82 | 1.237 | 17.81 | 6.247 | 4.06 | 133.5 | -104 | 2.8 | 0.25 |
| 4/13/2012 | 4:00:33 | 19.8 | 1.237 | 17.81 | 6.245 | 4.06 | 133.5 | -103 | 2.8 | 0.25 |
| 4/13/2012 | 4:05:33 | 19.79 | 1.238 | 17.81 | 6.244 | 4.06 | 133.5 | -105 | 2.8 | 0.25 |
| 4/13/2012 | 4:10:33 | 19.81 | 1.237 | 17.81 | 6.245 | 4.06 | 133.5 | -103 | 2.8 | 0.25 |
| 4/13/2012 | 4:15:33 | 19.92 | 1.235 | 17.81 | 6.247 | 4.07 | 133.5 | -101 | 2.8 | 0.25 |
| 4/13/2012 | 4:20:33 | 19.9 | 1.235 | 17.81 | 6.248 | 4.07 | 133.4 | -102 | 2.8 | 0.25 |
| 4/13/2012 | 4:25:33 | 19.85 | 1.236 | 17.81 | 6.246 | 4.07 | 133.4 | -103 | 2.8 | 0.25 |
| 4/13/2012 | 4:30:33 | 19.84 | 1.237 | 17.81 | 6.248 | 4.07 | 133.5 | -103 | 2.8 | 0.25 |
| 4/13/2012 | 4:35:33 | 19.79 | 1.236 | 17.81 | 6.245 | 4.06 | 133.5 | -105 | 2.8 | 0.25 |
| 4/13/2012 | 4:40:33 | 19.84 | 1.235 | 17.81 | 6.247 | 4.06 | 133.5 | -106 | 2.8 | 0.25 |
| 4/13/2012 | 4:45:33 | 19.89 | 1.235 | 17.81 | 6.248 | 4.07 | 133.4 | -104 | 2.8 | 0.25 |
| 4/13/2012 | 4:50:33 | 19.89 | 1.236 | 17.81 | 6.247 | 4.07 | 133.4 | -103 | 2.8 | 0.25 |
| 4/13/2012 | 4:55:32 | 19.85 | 1.236 | 17.81 | 6.248 | 4.07 | 133.4 | -105 | 2.8 | 0.25 |
| 4/13/2012 | 5:00:32 | 19.9 | 1.235 | 17.81 | 6.247 | 4.07 | 133.4 | -104 | 2.8 | 0.25 |
| 4/13/2012 | 5:05:32 | 19.9 | 1.236 | 17.81 | 6.249 | 4.07 | 133.4 | -103 | 2.8 | 0.25 |
| 4/13/2012 | 5:10:33 | 19.86 | 1.237 | 17.81 | 6.25 | 4.07 | 133.4 | -103 | 2.8 | 0.25 |
| 4/13/2012 | 5:15:33 | 19.83 | 1.236 | 17.81 | 6.251 | 4.07 | 133.4 | -106 | 2.8 | 0.25 |
| 4/13/2012 | 5:20:33 | 19.88 | 1.236 | 17.82 | 6.253 | 4.07 | 133.4 | -105 | 2.8 | 0.25 |
| 4/13/2012 | 5:25:33 | 19.84 | 1.237 | 17.82 | 6.253 | 4.07 | 133.4 | -105 | 2.8 | 0.25 |
| 4/13/2012 | 5:30:33 | 19.85 | 1.236 | 17.81 | 6.25 | 4.07 | 133.4 | -106 | 2.8 | 0.25 |
| 4/13/2012 | 5:35:33 | 19.92 | 1.235 | 17.81 | 6.252 | 4.07 | 133.4 | -103 | 2.8 | 0.25 |
| 4/13/2012 | 5:40:33 | 19.94 | 1.234 | 17.82 | 6.254 | 4.07 | 133.5 | -102 | 2.8 | 0.25 |
| 4/13/2012 | 5:45:33 | 19.91 | 1.235 | 17.82 | 6.257 | 4.07 | 133.4 | -105 | 2.8 | 0.25 |
| 4/13/2012 | 5:50:32 | 19.86 | 1.236 | 17.82 | 6.259 | 4.07 | 133.4 | -107 | 2.8 | 0.25 |
| 4/13/2012 | 5:55:33 | 19.85 | 1.236 | 17.82 | 6.259 | 4.07 | 133.4 | -107 | 2.8 | 0.25 |
| 4/13/2012 | 6:00:33 | 19.83 | 1.236 | 17.82 | 6.261 | 4.07 | 133.4 | -109 | 2.8 | 0.25 |
| 4/13/2012 | 6:05:33 | 19.83 | 1.236 | 17.82 | 6.263 | 4.07 | 133.4 | -111 | 2.8 | 0.25 |
| 4/13/2012 | 6:10:33 | 19.83 | 1.236 | 17.82 | 6.268 | 4.07 | 133.4 | -110 | 2.8 | 0.25 |
| 4/13/2012 | 6:15:33 | 19.81 | 1.236 | 17.82 | 6.269 | 4.07 | 133.4 | -109 | 2.8 | 0.25 |
| 4/13/2012 | 6:20:33 | 19.82 | 1.236 | 17.82 | 6.27 | 4.06 | 133.5 | -110 | 2.8 | 0.25 |
| 4/13/2012 | 6:25:33 | 19.8 | 1.236 | 17.82 | 6.273 | 4.06 | 133.4 | -111 | 2.8 | 0.25 |
| 4/13/2012 | 6:30:32 | 19.85 | 1.236 | 17.82 | 6.273 | 4.07 | 133.4 | -110 | 2.8 | 0.25 |
| 4/13/2012 | 6:35:32 | 19.83 | 1.237 | 17.83 | 6.277 | 4.07 | 133.4 | -107 | 2.8 | 0.25 |
| 4/13/2012 | 6:40:32 | 19.81 | 1.237 | 17.83 | 6.279 | 4.07 | 133.4 | -109 | 2.8 | 0.25 |
| 4/13/2012 | 6:45:33 | 19.8 | 1.236 | 17.83 | 6.282 | 4.07 | 133.4 | -110 | 2.8 | 0.25 |
| 4/13/2012 | 6:50:33 | 19.79 | 1.237 | 17.83 | 6.283 | 4.06 | 133.4 | -112 | 2.8 | 0.25 |
| 4/13/2012 | 6:55:33 | 19.9 | 1.236 | 17.83 | 6.287 | 4.07 | 133.4 | -107 | 2.8 | 0.25 |
| 4/13/2012 | 7:00:33 | 19.87 | 1.236 | 17.83 | 6.289 | 4.07 | 133.4 | -105 | 2.8 | 0.25 |
| 4/13/2012 | 7:05:33 | 19.84 | 1.236 | 17.83 | 6.29 | 4.07 | 133.4 | -107 | 2.8 | 0.25 |
| 4/13/2012 | 7:10:32 | 19.86 | 1.236 | 17.83 | 6.293 | 4.07 | 133.4 | -109 | 2.7 | 0.25 |
| 4/13/2012 | 7:15:33 | 19.86 | 1.237 | 17.83 | 6.293 | 4.07 | 133.4 | -107 | 2.7 | 0.25 |
| 4/13/2012 | 7:20:33 | 19.87 | 1.236 | 17.83 | 6.296 | 4.07 | 133.3 | -108 | 2.7 | 0.25 |
| 4/13/2012 | 7:25:33 | 19.89 | 1.236 | 17.83 | 6.295 | 4.07 | 133.4 | -106 | 2.8 | 0.25 |
| 4/13/2012 | 7:30:33 | 19.88 | 1.236 | 17.83 | 6.298 | 4.07 | 133.3 | -107 | 2.7 | 0.25 |
| 4/13/2012 | 7:35:33 | 19.84 | 1.236 | 17.84 | 6.3 | 4.07 | 133.4 | -107 | 2.8 | 0.25 |
| 4/13/2012 | 7:40:33 | 19.83 | 1.237 | 17.84 | 6.304 | 4.07 | 133.4 | -109 | 2.7 | 0.25 |
| 4/13/2012 | 7:45:33 | 19.81 | 1.237 | 17.84 | 6.305 | 4.07 | 133.3 | -111 | 2.7 | 0.25 |
| 4/13/2012 | 7:50:32 | 19.85 | 1.236 | 17.84 | 6.306 | 4.07 | 133.4 | -111 | 2.7 | 0.25 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 7:55:33 | 19.83 | 1.237 | 17.84 | 6.307 | 4.07 | 133.3 | -109 | 2.8 | 0.25 |
| 4/13/2012 | 8:00:33 | 19.88 | 1.235 | 17.84 | 6.306 | 4.07 | 133.3 | -108 | 2.7 | 0.25 |
| 4/13/2012 | 8:05:33 | 19.85 | 1.236 | 17.84 | 6.309 | 4.07 | 133.2 | -108 | 2.8 | 0.25 |
| 4/13/2012 | 8:10:33 | 19.83 | 1.236 | 17.84 | 6.309 | 4.07 | 133.2 | -109 | 2.7 | 0.25 |
| 4/13/2012 | 8:15:33 | 19.81 | 1.236 | 17.84 | 6.31 | 4.07 | 133.3 | -110 | 2.7 | 0.25 |
| 4/13/2012 | 8:20:33 | 19.8 | 1.236 | 17.84 | 6.314 | 4.07 | 133.2 | -112 | 2.7 | 0.25 |
| 4/13/2012 | 8:25:32 | 19.79 | 1.236 | 17.84 | 6.315 | 4.07 | 133.3 | -113 | 2.7 | 0.25 |
| 4/13/2012 | 8:30:33 | 19.8 | 1.236 | 17.84 | 6.315 | 4.07 | 133.3 | -113 | 2.7 | 0.25 |
| 4/13/2012 | 8:35:33 | 19.81 | 1.237 | 17.84 | 6.317 | 4.07 | 133.2 | -111 | 2.7 | 0.25 |
| 4/13/2012 | 8:40:33 | 19.8 | 1.236 | 17.84 | 6.32 | 4.07 | 133.2 | -111 | 2.7 | 0.25 |
| 4/13/2012 | 8:45:33 | 19.8 | 1.236 | 17.84 | 6.32 | 4.07 | 133.2 | -112 | 2.7 | 0.25 |
| 4/13/2012 | 8:50:33 | 19.83 | 1.236 | 17.84 | 6.32 | 4.07 | 133.2 | -110 | 2.7 | 0.25 |
| 4/13/2012 | 8:55:33 | 19.81 | 1.236 | 17.84 | 6.321 | 4.07 | 133.1 | -111 | 2.7 | 0.25 |
| 4/13/2012 | 9:00:32 | 19.8 | 1.236 | 17.85 | 6.322 | 4.07 | 133.1 | -111 | 2.7 | 0.25 |
| 4/13/2012 | 9:05:33 | 19.81 | 1.236 | 17.85 | 6.321 | 4.07 | 133.1 | -112 | 2.7 | 0.25 |
| 4/13/2012 | 9:10:33 | 19.8 | 1.236 | 17.84 | 6.32 | 4.07 | 133.1 | -111 | 2.7 | 0.25 |
| 4/13/2012 | 9:15:33 | 19.81 | 1.236 | 17.84 | 6.319 | 4.07 | 133.1 | -112 | 2.7 | 0.25 |
| 4/13/2012 | 9:20:33 | 19.79 | 1.236 | 17.84 | 6.321 | 4.07 | 133.1 | -113 | 2.7 | 0.25 |
| 4/13/2012 | 9:25:33 | 19.79 | 1.235 | 17.84 | 6.321 | 4.07 | 133.1 | -115 | 2.7 | 0.25 |
| 4/13/2012 | 9:30:33 | 19.77 | 1.236 | 17.85 | 6.322 | 4.07 | 133.1 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 9:35:33 | 19.8 | 1.235 | 17.84 | 6.321 | 4.07 | 133.2 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 9:40:32 | 19.84 | 1.235 | 17.85 | 6.324 | 4.07 | 133.1 | -113 | 2.7 | 0.25 |
| 4/13/2012 | 9:45:33 | 19.83 | 1.235 | 17.85 | 6.323 | 4.07 | 133 | -111 | 2.7 | 0.25 |
| 4/13/2012 | 9:50:33 | 19.83 | 1.236 | 17.85 | 6.325 | 4.07 | 132.9 | -110 | 2.7 | 0.25 |
| 4/13/2012 | 9:55:32 | 19.83 | 1.235 | 17.85 | 6.327 | 4.07 | 132.9 | -110 | 2.7 | 0.25 |
| 4/13/2012 | 10:00:33 | 19.82 | 1.235 | 17.85 | 6.325 | 4.07 | 132.9 | -110 | 2.7 | 0.25 |
| 4/13/2012 | 10:05:33 | 19.82 | 1.234 | 17.85 | 6.326 | 4.07 | 132.9 | -111 | 2.7 | 0.25 |
| 4/13/2012 | 10:10:32 | 19.83 | 1.235 | 17.85 | 6.325 | 4.08 | 132.9 | -111 | 2.7 | 0.25 |
| 4/13/2012 | 10:15:33 | 19.8 | 1.234 | 17.84 | 6.318 | 4.07 | 132.9 | -113 | 2.7 | 0.25 |
| 4/13/2012 | 10:20:33 | 19.81 | 1.234 | 17.84 | 6.317 | 4.07 | 132.9 | -113 | 2.7 | 0.25 |
| 4/13/2012 | 10:25:33 | 19.79 | 1.234 | 17.84 | 6.317 | 4.07 | 132.9 | -115 | 2.7 | 0.25 |
| 4/13/2012 | 10:30:33 | 19.79 | 1.234 | 17.84 | 6.32 | 4.07 | 132.9 | -115 | 2.7 | 0.25 |
| 4/13/2012 | 10:35:32 | 19.79 | 1.234 | 17.84 | 6.321 | 4.07 | 132.9 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 10:40:33 | 19.77 | 1.234 | 17.85 | 6.322 | 4.07 | 132.9 | -117 | 2.7 | 0.25 |
| 4/13/2012 | 10:45:33 | 19.79 | 1.234 | 17.85 | 6.322 | 4.07 | 132.9 | -117 | 2.7 | 0.25 |
| 4/13/2012 | 10:50:33 | 19.82 | 1.234 | 17.84 | 6.32 | 4.08 | 132.9 | -115 | 2.7 | 0.25 |
| 4/13/2012 | 10:55:33 | 19.9 | 1.233 | 17.85 | 6.323 | 4.08 | 132.8 | -111 | 2.7 | 0.25 |
| 4/13/2012 | 11:00:33 | 19.86 | 1.233 | 17.85 | 6.324 | 4.08 | 132.8 | -111 | 2.7 | 0.25 |
| 4/13/2012 | 11:05:33 | 19.87 | 1.233 | 17.84 | 6.32 | 4.08 | 132.8 | -110 | 2.7 | 0.25 |
| 4/13/2012 | 11:10:33 | 19.83 | 1.232 | 17.84 | 6.319 | 4.08 | 132.8 | -113 | 2.7 | 0.25 |
| 4/13/2012 | 11:15:33 | 19.82 | 1.233 | 17.84 | 6.317 | 4.08 | 132.8 | -114 | 2.7 | 0.25 |
| 4/13/2012 | 11:20:33 | 19.8 | 1.233 | 17.84 | 6.319 | 4.08 | 132.8 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 11:25:33 | 19.84 | 1.232 | 17.84 | 6.318 | 4.08 | 132.8 | -115 | 2.7 | 0.25 |
| 4/13/2012 | 11:30:32 | 19.85 | 1.232 | 17.84 | 6.317 | 4.08 | 132.7 | -113 | 2.7 | 0.25 |
| 4/13/2012 | 11:35:33 | 19.83 | 1.232 | 17.84 | 6.318 | 4.08 | 132.7 | -114 | 2.7 | 0.25 |
| 4/13/2012 | 11:40:33 | 19.85 | 1.232 | 17.84 | 6.317 | 4.08 | 132.7 | -113 | 2.7 | 0.25 |
| 4/13/2012 | 11:45:33 | 19.84 | 1.232 | 17.84 | 6.318 | 4.08 | 132.6 | -114 | 2.7 | 0.25 |
| 4/13/2012 | 11:50:33 | 19.82 | 1.232 | 17.84 | 6.314 | 4.08 | 132.6 | -115 | 2.7 | 0.25 |
| 4/13/2012 | 11:55:33 | 19.85 | 1.231 | 17.84 | 6.313 | 4.08 | 132.7 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 12:00:33 | 19.85 | 1.232 | 17.84 | 6.31 | 4.08 | 132.6 | -114 | 2.7 | 0.25 |
| 4/13/2012 | 12:05:33 | 19.82 | 1.232 | 17.84 | 6.307 | 4.08 | 132.6 | -115 | 2.7 | 0.25 |
| 4/13/2012 | 12:10:33 | 19.82 | 1.231 | 17.84 | 6.307 | 4.08 | 132.6 | -117 | 2.7 | 0.25 |
| 4/13/2012 | 12:15:33 | 19.85 | 1.232 | 17.84 | 6.299 | 4.08 | 132.6 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 12:20:33 | 19.82 | 1.232 | 17.83 | 6.299 | 4.08 | 132.6 | -115 | 2.7 | 0.25 |
| 4/13/2012 | 12:25:33 | 19.81 | 1.231 | 17.83 | 6.297 | 4.08 | 132.6 | -117 | 2.7 | 0.25 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 12:30:33 | 19.81 | 1.231 | 17.83 | 6.295 | 4.08 | 132.6 | -117 | 2.7 | 0.25 |
| 4/13/2012 | 12:35:32 | 19.81 | 1.231 | 17.83 | 6.296 | 4.08 | 132.5 | -117 | 2.7 | 0.25 |
| 4/13/2012 | 12:40:33 | 19.84 | 1.231 | 17.83 | 6.295 | 4.08 | 132.5 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 12:45:32 | 19.9 | 1.23 | 17.83 | 6.292 | 4.08 | 132.5 | -115 | 2.7 | 0.25 |
| 4/13/2012 | 12:50:33 | 19.84 | 1.231 | 17.83 | 6.292 | 4.08 | 132.5 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 12:55:33 | 19.87 | 1.23 | 17.83 | 6.287 | 4.08 | 132.5 | -117 | 2.7 | 0.25 |
| 4/13/2012 | 13:00:33 | 19.87 | 1.231 | 17.83 | 6.285 | 4.08 | 132.4 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 13:05:33 | 19.83 | 1.231 | 17.83 | 6.286 | 4.08 | 132.4 | -117 | 2.7 | 0.25 |
| 4/13/2012 | 13:10:33 | 19.83 | 1.231 | 17.83 | 6.282 | 4.08 | 132.4 | -117 | 2.7 | 0.25 |
| 4/13/2012 | 13:15:33 | 19.88 | 1.231 | 17.83 | 6.28 | 4.08 | 132.4 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 13:20:33 | 19.89 | 1.231 | 17.83 | 6.28 | 4.08 | 132.4 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 13:25:33 | 19.93 | 1.229 | 17.83 | 6.277 | 4.09 | 132.4 | -115 | 2.7 | 0.24 |
| 4/13/2012 | 13:30:33 | 19.89 | 1.23 | 17.83 | 6.276 | 4.08 | 132.4 | -116 | 2.7 | 0.25 |
| 4/13/2012 | 13:35:33 | 19.86 | 1.23 | 17.83 | 6.277 | 4.08 | 132.4 | -118 | 2.7 | 0.24 |
| 4/13/2012 | 13:40:33 | 19.85 | 1.23 | 17.82 | 6.274 | 4.08 | 132.4 | -119 | 2.7 | 0.25 |
| 4/13/2012 | 13:45:33 | 19.82 | 1.23 | 17.82 | 6.273 | 4.08 | 132.3 | -120 | 2.7 | 0.25 |
| 4/13/2012 | 13:50:33 | 19.82 | 1.23 | 17.82 | 6.268 | 4.08 | 132.4 | -121 | 2.7 | 0.25 |
| 4/13/2012 | 13:55:33 | 19.83 | 1.23 | 17.82 | 6.27 | 4.08 | 132.4 | -121 | 2.7 | 0.25 |
| 4/13/2012 | 14:00:32 | 19.81 | 1.23 | 17.82 | 6.268 | 4.08 | 132.4 | -120 | 2.7 | 0.25 |
| 4/13/2012 | 14:05:33 | 19.88 | 1.229 | 17.82 | 6.269 | 4.09 | 132.3 | -118 | 2.7 | 0.25 |
| 4/13/2012 | 14:10:33 | 19.85 | 1.23 | 17.82 | 6.268 | 4.09 | 132.3 | -119 | 2.7 | 0.25 |
| 4/13/2012 | 14:15:33 | 19.84 | 1.23 | 17.82 | 6.268 | 4.08 | 132.3 | -120 | 2.7 | 0.25 |
| 4/13/2012 | 14:20:32 | 19.86 | 1.23 | 17.82 | 6.267 | 4.09 | 132.3 | -120 | 2.7 | 0.25 |
| 4/13/2012 | 14:25:33 | 19.88 | 1.23 | 17.82 | 6.268 | 4.09 | 132.3 | -118 | 2.7 | 0.25 |
| 4/13/2012 | 14:30:32 | 19.84 | 1.23 | 17.82 | 6.265 | 4.09 | 132.3 | -118 | 2.7 | 0.24 |
| 4/13/2012 | 14:35:33 | 19.88 | 1.229 | 17.82 | 6.264 | 4.09 | 132.3 | -119 | 2.7 | 0.24 |
| 4/13/2012 | 14:40:33 | 19.83 | 1.23 | 17.82 | 6.264 | 4.08 | 132.3 | -119 | 2.7 | 0.25 |
| 4/13/2012 | 14:45:33 | 19.84 | 1.23 | 17.82 | 6.266 | 4.08 | 132.4 | -120 | 2.7 | 0.25 |
| 4/13/2012 | 14:50:33 | 19.83 | 1.23 | 17.82 | 6.266 | 4.08 | 132.4 | -120 | 2.7 | 0.25 |
| 4/13/2012 | 14:55:32 | 19.82 | 1.23 | 17.82 | 6.265 | 4.08 | 132.3 | -119 | 2.7 | 0.25 |
| 4/13/2012 | 15:00:32 | 19.82 | 1.23 | 17.82 | 6.267 | 4.08 | 132.4 | -120 | 2.7 | 0.25 |
| 4/13/2012 | 15:05:33 | 19.82 | 1.23 | 17.82 | 6.269 | 4.09 | 132.3 | -121 | 2.7 | 0.25 |
| 4/13/2012 | 15:10:33 | 19.86 | 1.23 | 17.82 | 6.268 | 4.08 | 132.4 | -120 | 2.7 | 0.25 |
| 4/13/2012 | 15:15:33 | 19.85 | 1.231 | 17.82 | 6.263 | 4.09 | 132.3 | -119 | 2.7 | 0.25 |
| 4/13/2012 | 15:20:33 | 19.85 | 1.23 | 17.82 | 6.261 | 4.09 | 132.3 | -119 | 2.7 | 0.25 |
| 4/13/2012 | 15:25:32 | 19.89 | 1.23 | 17.82 | 6.258 | 4.09 | 132.4 | -117 | 2.7 | 0.25 |
| 4/13/2012 | 15:30:33 | 19.86 | 1.23 | 17.81 | 6.246 | 4.09 | 132.3 | -119 | 2.7 | 0.24 |
| 4/13/2012 | 15:35:33 | 19.85 | 1.23 | 17.81 | 6.246 | 4.09 | 132.3 | -120 | 2.7 | 0.24 |
| 4/13/2012 | 15:40:33 | 19.92 | 1.228 | 17.81 | 6.249 | 4.09 | 132.3 | -119 | 2.7 | 0.24 |
| 4/13/2012 | 15:45:33 | 19.93 | 1.229 | 17.81 | 6.25 | 4.09 | 132.3 | -117 | 2.7 | 0.25 |
| 4/13/2012 | 15:50:33 | 19.9 | 1.229 | 17.81 | 6.252 | 4.09 | 132.3 | -118 | 2.7 | 0.24 |
| 4/13/2012 | 15:55:33 | 19.93 | 1.229 | 17.82 | 6.258 | 4.09 | 132.3 | -120 | 2.7 | 0.24 |
| 4/13/2012 | 16:00:33 | 19.9 | 1.23 | 17.82 | 6.258 | 4.09 | 132.3 | -120 | 2.7 | 0.24 |
| 4/13/2012 | 16:05:33 | 19.88 | 1.229 | 17.82 | 6.258 | 4.09 | 132.3 | -120 | 2.7 | 0.25 |
| 4/13/2012 | 16:10:33 | 19.87 | 1.229 | 17.82 | 6.26 | 4.09 | 132.3 | -121 | 2.7 | 0.24 |
| 4/13/2012 | 16:15:33 | 19.86 | 1.229 | 17.82 | 6.26 | 4.09 | 132.3 | -121 | 2.7 | 0.25 |
| 4/13/2012 | 16:20:33 | 19.92 | 1.228 | 17.82 | 6.265 | 4.09 | 132.3 | -121 | 2.7 | 0.25 |
| 4/13/2012 | 16:25:33 | 19.93 | 1.229 | 17.82 | 6.264 | 4.09 | 132.3 | -119 | 2.7 | 0.24 |
| 4/13/2012 | 16:30:33 | 19.87 | 1.23 | 17.82 | 6.267 | 4.09 | 132.3 | -120 | 2.7 | 0.25 |
| 4/13/2012 | 16:35:33 | 19.85 | 1.229 | 17.82 | 6.262 | 4.09 | 132.3 | -121 | 2.7 | 0.24 |
| 4/13/2012 | 16:40:33 | 19.84 | 1.23 | 17.82 | 6.258 | 4.09 | 132.3 | -123 | 2.7 | 0.25 |
| 4/13/2012 | 16:45:33 | 19.82 | 1.23 | 17.82 | 6.262 | 4.09 | 132.3 | -123 | 2.7 | 0.25 |
| 4/13/2012 | 16:50:33 | 19.85 | 1.23 | 17.82 | 6.263 | 4.09 | 132.3 | -122 | 2.7 | 0.25 |
| 4/13/2012 | 16:55:33 | 19.85 | 1.23 | 17.82 | 6.262 | 4.09 | 132.2 | -122 | 2.7 | 0.25 |
| 4/13/2012 | 17:00:33 | 19.84 | 1.23 | 17.82 | 6.261 | 4.09 | 132.3 | -122 | 2.7 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 17:05:33 | 19.83 | 1.229 | 17.82 | 6.261 | 4.09 | 132.3 | -123 | 2.7 | 0.24 |
| 4/13/2012 | 17:10:33 | 19.81 | 1.229 | 17.82 | 6.264 | 4.09 | 132.3 | -123 | 2.7 | 0.25 |
| 4/13/2012 | 17:15:33 | 19.8 | 1.23 | 17.82 | 6.265 | 4.09 | 132.3 | -124 | 2.7 | 0.25 |
| 4/13/2012 | 17:20:33 | 19.81 | 1.23 | 17.82 | 6.267 | 4.09 | 132.3 | -125 | 2.7 | 0.25 |
| 4/13/2012 | 17:25:33 | 19.8 | 1.23 | 17.82 | 6.267 | 4.09 | 132.3 | -125 | 2.7 | 0.25 |
| 4/13/2012 | 17:30:33 | 19.81 | 1.231 | 17.82 | 6.27 | 4.09 | 132.3 | -125 | 2.7 | 0.25 |
| 4/13/2012 | 17:35:33 | 19.86 | 1.23 | 17.82 | 6.274 | 4.09 | 132.3 | -123 | 2.7 | 0.25 |
| 4/13/2012 | 17:40:33 | 19.83 | 1.23 | 17.82 | 6.273 | 4.09 | 132.3 | -123 | 2.7 | 0.25 |
| 4/13/2012 | 17:45:33 | 19.82 | 1.229 | 17.82 | 6.274 | 4.09 | 132.2 | -123 | 2.7 | 0.24 |
| 4/13/2012 | 17:50:33 | 19.8 | 1.23 | 17.83 | 6.276 | 4.09 | 132.2 | -124 | 2.7 | 0.25 |
| 4/13/2012 | 17:55:33 | 19.81 | 1.23 | 17.83 | 6.276 | 4.09 | 132.2 | -125 | 2.7 | 0.24 |
| 4/13/2012 | 18:00:33 | 19.85 | 1.229 | 17.83 | 6.28 | 4.09 | 132.2 | -125 | 2.7 | 0.24 |
| 4/13/2012 | 18:05:33 | 19.81 | 1.23 | 17.83 | 6.281 | 4.09 | 132.2 | -125 | 2.7 | 0.25 |
| 4/13/2012 | 18:10:33 | 19.81 | 1.23 | 17.83 | 6.281 | 4.09 | 132.2 | -124 | 2.7 | 0.25 |
| 4/13/2012 | 18:15:33 | 19.83 | 1.229 | 17.83 | 6.283 | 4.09 | 132.2 | -124 | 2.7 | 0.25 |
| 4/13/2012 | 18:20:33 | 19.82 | 1.23 | 17.83 | 6.283 | 4.09 | 132.2 | -124 | 2.7 | 0.25 |
| 4/13/2012 | 18:25:33 | 19.9 | 1.229 | 17.83 | 6.282 | 4.09 | 132.2 | -123 | 2.7 | 0.24 |
| 4/13/2012 | 18:30:33 | 19.86 | 1.23 | 17.83 | 6.279 | 4.09 | 132.1 | -122 | 2.7 | 0.24 |
| 4/13/2012 | 18:35:33 | 19.9 | 1.229 | 17.83 | 6.281 | 4.09 | 132.1 | -121 | 2.7 | 0.24 |
| 4/13/2012 | 18:40:33 | 19.89 | 1.229 | 17.83 | 6.284 | 4.09 | 132.1 | -122 | 2.7 | 0.24 |
| 4/13/2012 | 18:45:32 | 19.85 | 1.229 | 17.83 | 6.283 | 4.09 | 132.1 | -122 | 2.7 | 0.24 |
| 4/13/2012 | 18:50:33 | 19.85 | 1.229 | 17.83 | 6.281 | 4.09 | 132.1 | -123 | 2.7 | 0.24 |
| 4/13/2012 | 18:55:33 | 19.84 | 1.229 | 17.83 | 6.28 | 4.09 | 132.1 | -124 | 2.7 | 0.24 |
| 4/13/2012 | 19:00:32 | 19.84 | 1.229 | 17.83 | 6.28 | 4.09 | 132.2 | -124 | 2.7 | 0.25 |
| 4/13/2012 | 19:05:33 | 19.91 | 1.228 | 17.83 | 6.281 | 4.09 | 132.3 | -124 | 2.7 | 0.24 |
| 4/13/2012 | 19:10:33 | 19.87 | 1.229 | 17.83 | 6.282 | 4.09 | 132.1 | -123 | 2.7 | 0.24 |
| 4/13/2012 | 19:15:33 | 19.9 | 1.228 | 17.83 | 6.281 | 4.09 | 132.1 | -123 | 2.7 | 0.25 |
| 4/13/2012 | 19:20:33 | 19.89 | 1.229 | 17.83 | 6.285 | 4.09 | 132.1 | -123 | 2.7 | 0.24 |
| 4/13/2012 | 19:25:33 | 19.86 | 1.228 | 17.83 | 6.282 | 4.09 | 132.1 | -124 | 2.7 | 0.24 |
| 4/13/2012 | 19:30:33 | 19.9 | 1.227 | 17.83 | 6.283 | 4.09 | 132.1 | -124 | 2.7 | 0.24 |
| 4/13/2012 | 19:35:33 | 19.87 | 1.228 | 17.83 | 6.286 | 4.09 | 132.1 | -124 | 2.7 | 0.24 |
| 4/13/2012 | 19:40:33 | 19.91 | 1.225 | 17.83 | 6.288 | 4.09 | 132.1 | -122 | 2.7 | 0.25 |
| 4/13/2012 | 19:45:33 | 19.92 | 1.227 | 17.83 | 6.291 | 4.09 | 132.1 | -122 | 2.7 | 0.24 |
| 4/13/2012 | 19:50:32 | 19.88 | 1.227 | 17.83 | 6.289 | 4.09 | 132.1 | -124 | 2.7 | 0.24 |
| 4/13/2012 | 19:55:33 | 19.9 | 1.227 | 17.83 | 6.291 | 4.09 | 132.1 | -124 | 2.7 | 0.24 |
| 4/13/2012 | 20:00:32 | 19.9 | 1.227 | 17.83 | 6.294 | 4.09 | 132.1 | -124 | 2.7 | 0.25 |
| 4/13/2012 | 20:05:33 | 19.9 | 1.227 | 17.83 | 6.294 | 4.09 | 132.1 | -123 | 2.7 | 0.24 |
| 4/13/2012 | 20:10:33 | 19.86 | 1.227 | 17.83 | 6.296 | 4.09 | 132.1 | -125 | 2.7 | 0.24 |
| 4/13/2012 | 20:15:33 | 19.86 | 1.227 | 17.83 | 6.295 | 4.09 | 132.1 | -126 | 2.7 | 0.24 |
| 4/13/2012 | 20:20:33 | 19.85 | 1.227 | 17.83 | 6.298 | 4.09 | 132.1 | -126 | 2.7 | 0.25 |
| 4/13/2012 | 20:25:33 | 19.83 | 1.227 | 17.83 | 6.299 | 4.09 | 132.1 | -125 | 2.7 | 0.25 |
| 4/13/2012 | 20:30:33 | 19.82 | 1.227 | 17.84 | 6.301 | 4.09 | 132.1 | -126 | 2.7 | 0.25 |
| 4/13/2012 | 20:35:33 | 19.82 | 1.227 | 17.84 | 6.302 | 4.09 | 132.1 | -128 | 2.7 | 0.25 |
| 4/13/2012 | 20:40:33 | 19.85 | 1.227 | 17.84 | 6.302 | 4.09 | 132 | -125 | 2.7 | 0.24 |
| 4/13/2012 | 20:45:33 | 19.89 | 1.227 | 17.84 | 6.302 | 4.09 | 132 | -124 | 2.7 | 0.24 |
| 4/13/2012 | 20:50:33 | 19.9 | 1.226 | 17.84 | 6.306 | 4.09 | 132 | -124 | 2.7 | 0.24 |
| 4/13/2012 | 20:55:32 | 19.87 | 1.227 | 17.84 | 6.306 | 4.09 | 132 | -124 | 2.7 | 0.24 |
| 4/13/2012 | 21:00:33 | 19.85 | 1.226 | 17.84 | 6.307 | 4.09 | 132 | -125 | 2.7 | 0.24 |
| 4/13/2012 | 21:05:33 | 19.86 | 1.226 | 17.84 | 6.31 | 4.09 | 132 | -126 | 2.7 | 0.24 |
| 4/13/2012 | 21:10:33 | 19.86 | 1.226 | 17.84 | 6.311 | 4.09 | 132 | -126 | 2.7 | 0.24 |
| 4/13/2012 | 21:15:32 | 19.84 | 1.226 | 17.84 | 6.31 | 4.09 | 132 | -127 | 2.7 | 0.25 |
| 4/13/2012 | 21:20:33 | 19.82 | 1.226 | 17.84 | 6.309 | 4.09 | 132 | -128 | 2.7 | 0.25 |
| 4/13/2012 | 21:25:33 | 19.86 | 1.226 | 17.84 | 6.309 | 4.09 | 132 | -127 | 2.7 | 0.25 |
| 4/13/2012 | 21:30:33 | 19.91 | 1.225 | 17.84 | 6.309 | 4.09 | 131.9 | -125 | 2.7 | 0.24 |
| 4/13/2012 | 21:35:33 | 19.87 | 1.225 | 17.84 | 6.312 | 4.09 | 131.9 | -125 | 2.7 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 21:40:33 | 19.89 | 1.224 | 17.84 | 6.308 | 4.09 | 131.9 | -126 | 2.7 | 0.25 |
| 4/13/2012 | 21:45:33 | 19.86 | 1.225 | 17.83 | 6.294 | 4.09 | 131.9 | -126 | 2.7 | 0.24 |
| 4/13/2012 | 21:50:33 | 19.84 | 1.224 | 17.83 | 6.298 | 4.09 | 131.9 | -126 | 2.7 | 0.25 |
| 4/13/2012 | 21:55:33 | 19.84 | 1.224 | 17.84 | 6.301 | 4.09 | 131.9 | -127 | 2.7 | 0.25 |
| 4/13/2012 | 22:00:33 | 19.82 | 1.224 | 17.84 | 6.301 | 4.09 | 131.9 | -128 | 2.7 | 0.25 |
| 4/13/2012 | 22:05:33 | 19.81 | 1.224 | 17.83 | 6.298 | 4.09 | 131.9 | -128 | 2.7 | 0.25 |
| 4/13/2012 | 22:10:32 | 19.82 | 1.224 | 17.84 | 6.3 | 4.09 | 131.8 | -128 | 2.7 | 0.24 |
| 4/13/2012 | 22:15:33 | 19.84 | 1.223 | 17.83 | 6.298 | 4.09 | 131.8 | -129 | 2.7 | 0.25 |
| 4/13/2012 | 22:20:33 | 19.82 | 1.224 | 17.84 | 6.302 | 4.09 | 131.8 | -128 | 2.7 | 0.25 |
| 4/13/2012 | 22:25:33 | 19.82 | 1.224 | 17.84 | 6.301 | 4.09 | 131.8 | -129 | 2.7 | 0.25 |
| 4/13/2012 | 22:30:33 | 19.93 | 1.222 | 17.84 | 6.301 | 4.1 | 131.8 | -125 | 2.7 | 0.24 |
| 4/13/2012 | 22:35:32 | 19.91 | 1.222 | 17.84 | 6.299 | 4.1 | 131.8 | -127 | 2.7 | 0.24 |
| 4/13/2012 | 22:40:33 | 19.89 | 1.222 | 17.84 | 6.303 | 4.1 | 131.7 | -126 | 2.7 | 0.24 |
| 4/13/2012 | 22:45:33 | 19.87 | 1.223 | 17.84 | 6.303 | 4.1 | 131.7 | -126 | 2.7 | 0.24 |
| 4/13/2012 | 22:50:33 | 19.84 | 1.222 | 17.84 | 6.299 | 4.1 | 131.7 | -127 | 2.7 | 0.25 |
| 4/13/2012 | 22:55:33 | 19.82 | 1.222 | 17.83 | 6.298 | 4.1 | 131.8 | -128 | 2.7 | 0.25 |
| 4/13/2012 | 23:00:33 | 19.81 | 1.222 | 17.83 | 6.296 | 4.09 | 131.8 | -129 | 2.7 | 0.25 |
| 4/13/2012 | 23:05:33 | 19.8 | 1.222 | 17.83 | 6.298 | 4.09 | 131.8 | -130 | 2.7 | 0.24 |
| 4/13/2012 | 23:10:33 | 19.79 | 1.222 | 17.83 | 6.298 | 4.1 | 131.7 | -132 | 2.7 | 0.24 |
| 4/13/2012 | 23:15:33 | 19.81 | 1.222 | 17.83 | 6.298 | 4.1 | 131.8 | -132 | 2.7 | 0.25 |
| 4/13/2012 | 23:20:33 | 19.89 | 1.221 | 17.83 | 6.296 | 4.1 | 131.7 | -128 | 2.7 | 0.24 |
| 4/13/2012 | 23:25:33 | 19.85 | 1.222 | 17.83 | 6.295 | 4.1 | 131.7 | -127 | 2.7 | 0.24 |
| 4/13/2012 | 23:30:33 | 19.83 | 1.221 | 17.83 | 6.296 | 4.1 | 131.6 | -128 | 2.7 | 0.25 |
| 4/13/2012 | 23:35:33 | 19.83 | 1.221 | 17.83 | 6.295 | 4.1 | 131.7 | -129 | 2.7 | 0.25 |
| 4/13/2012 | 23:40:32 | 19.82 | 1.221 | 17.83 | 6.295 | 4.1 | 131.7 | -130 | 2.7 | 0.25 |
| 4/13/2012 | 23:45:33 | 19.82 | 1.221 | 17.83 | 6.295 | 4.1 | 131.7 | -130 | 2.7 | 0.24 |
| 4/13/2012 | 23:50:33 | 19.85 | 1.221 | 17.83 | 6.296 | 4.1 | 131.7 | -128 | 2.7 | 0.24 |
| 4/13/2012 | 23:55:33 | 19.83 | 1.221 | 17.83 | 6.295 | 4.1 | 131.5 | -128 | 2.7 | 0.25 |
| 4/14/2012 | 0:00:32 | 19.9 | 1.22 | 17.83 | 6.295 | 4.1 | 131.7 | -128 | 2.7 | 0.24 |
| 4/14/2012 | 0:05:33 | 19.92 | 1.22 | 17.83 | 6.296 | 4.1 | 131.6 | -125 | 2.7 | 0.24 |
| 4/14/2012 | 0:10:33 | 19.86 | 1.22 | 17.83 | 6.296 | 4.1 | 131.6 | -126 | 2.7 | 0.24 |
| 4/14/2012 | 0:15:33 | 19.85 | 1.219 | 17.83 | 6.294 | 4.1 | 131.6 | -128 | 2.7 | 0.24 |
| 4/14/2012 | 0:20:33 | 19.84 | 1.22 | 17.83 | 6.294 | 4.1 | 131.6 | -129 | 2.7 | 0.24 |
| 4/14/2012 | 0:25:33 | 19.87 | 1.22 | 17.83 | 6.294 | 4.1 | 131.5 | -127 | 2.7 | 0.24 |
| 4/14/2012 | 0:30:33 | 19.85 | 1.22 | 17.83 | 6.292 | 4.1 | 131.5 | -128 | 2.7 | 0.24 |
| 4/14/2012 | 0:35:33 | 19.86 | 1.219 | 17.83 | 6.293 | 4.1 | 131.5 | -128 | 2.7 | 0.24 |
| 4/14/2012 | 0:40:33 | 19.83 | 1.219 | 17.83 | 6.291 | 4.1 | 131.5 | -129 | 2.7 | 0.24 |
| 4/14/2012 | 0:45:33 | 19.83 | 1.219 | 17.83 | 6.29 | 4.1 | 131.5 | -129 | 2.7 | 0.25 |
| 4/14/2012 | 0:50:33 | 19.83 | 1.219 | 17.83 | 6.283 | 4.1 | 131.6 | -130 | 2.7 | 0.25 |
| 4/14/2012 | 0:55:33 | 19.84 | 1.219 | 17.83 | 6.285 | 4.1 | 131.6 | -129 | 2.7 | 0.24 |
| 4/14/2012 | 1:00:33 | 19.87 | 1.218 | 17.83 | 6.286 | 4.1 | 131.5 | -130 | 2.7 | 0.24 |
| 4/14/2012 | 1:05:33 | 19.84 | 1.219 | 17.83 | 6.286 | 4.1 | 131.5 | -129 | 2.7 | 0.24 |
| 4/14/2012 | 1:10:33 | 19.83 | 1.218 | 17.83 | 6.285 | 4.1 | 131.5 | -130 | 2.7 | 0.25 |
| 4/14/2012 | 1:15:33 | 19.81 | 1.218 | 17.83 | 6.285 | 4.1 | 131.5 | -130 | 2.7 | 0.25 |
| 4/14/2012 | 1:20:33 | 19.83 | 1.218 | 17.83 | 6.287 | 4.1 | 131.5 | -131 | 2.7 | 0.25 |
| 4/14/2012 | 1:25:32 | 19.81 | 1.218 | 17.83 | 6.285 | 4.1 | 131.5 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 1:30:33 | 19.82 | 1.219 | 17.83 | 6.287 | 4.1 | 131.5 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 1:35:33 | 19.81 | 1.218 | 17.83 | 6.283 | 4.1 | 131.5 | -133 | 2.7 | 0.25 |
| 4/14/2012 | 1:40:33 | 19.84 | 1.218 | 17.83 | 6.284 | 4.1 | 131.5 | -132 | 2.7 | 0.25 |
| 4/14/2012 | 1:45:32 | 19.85 | 1.218 | 17.83 | 6.282 | 4.1 | 131.5 | -131 | 2.7 | 0.24 |
| 4/14/2012 | 1:50:33 | 19.83 | 1.218 | 17.83 | 6.277 | 4.1 | 131.5 | -131 | 2.7 | 0.25 |
| 4/14/2012 | 1:55:33 | 19.81 | 1.218 | 17.83 | 6.275 | 4.1 | 131.5 | -132 | 2.7 | 0.25 |
| 4/14/2012 | 2:00:32 | 19.85 | 1.217 | 17.82 | 6.27 | 4.1 | 131.5 | -132 | 2.7 | 0.25 |
| 4/14/2012 | 2:05:32 | 19.86 | 1.218 | 17.82 | 6.269 | 4.1 | 131.5 | -131 | 2.7 | 0.25 |
| 4/14/2012 | 2:10:33 | 19.88 | 1.217 | 17.82 | 6.263 | 4.1 | 131.5 | -130 | 2.7 | 0.24 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 2:15:33 | 19.89 | 1.217 | 17.82 | 6.262 | 4.1 | 131.5 | -130 | 2.7 | 0.24 |
| 4/14/2012 | 2:20:33 | 19.86 | 1.217 | 17.82 | 6.258 | 4.1 | 131.4 | -130 | 2.7 | 0.24 |
| 4/14/2012 | 2:25:33 | 19.84 | 1.217 | 17.82 | 6.259 | 4.1 | 131.4 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 2:30:33 | 19.82 | 1.217 | 17.82 | 6.254 | 4.1 | 131.5 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 2:35:33 | 19.87 | 1.217 | 17.82 | 6.258 | 4.1 | 131.5 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 2:40:32 | 19.94 | 1.216 | 17.82 | 6.256 | 4.1 | 131.4 | -128 | 2.7 | 0.24 |
| 4/14/2012 | 2:45:33 | 19.9 | 1.216 | 17.82 | 6.256 | 4.1 | 131.4 | -129 | 2.7 | 0.24 |
| 4/14/2012 | 2:50:32 | 19.87 | 1.216 | 17.82 | 6.258 | 4.1 | 131.4 | -130 | 2.7 | 0.24 |
| 4/14/2012 | 2:55:32 | 19.85 | 1.217 | 17.82 | 6.255 | 4.1 | 131.4 | -131 | 2.7 | 0.24 |
| 4/14/2012 | 3:00:33 | 19.89 | 1.217 | 17.82 | 6.254 | 4.1 | 131.5 | -131 | 2.7 | 0.24 |
| 4/14/2012 | 3:05:33 | 19.85 | 1.217 | 17.82 | 6.257 | 4.1 | 131.5 | -131 | 2.7 | 0.24 |
| 4/14/2012 | 3:10:33 | 19.86 | 1.217 | 17.82 | 6.259 | 4.1 | 131.5 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 3:15:33 | 19.84 | 1.217 | 17.82 | 6.258 | 4.1 | 131.4 | -131 | 2.7 | 0.25 |
| 4/14/2012 | 3:20:33 | 19.84 | 1.217 | 17.82 | 6.259 | 4.1 | 131.5 | -132 | 2.7 | 0.25 |
| 4/14/2012 | 3:25:33 | 19.82 | 1.217 | 17.82 | 6.259 | 4.1 | 131.5 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 3:30:33 | 19.85 | 1.217 | 17.82 | 6.26 | 4.1 | 131.5 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 3:35:33 | 19.83 | 1.217 | 17.82 | 6.259 | 4.1 | 131.5 | -132 | 2.7 | 0.25 |
| 4/14/2012 | 3:40:33 | 19.85 | 1.217 | 17.82 | 6.259 | 4.1 | 131.5 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 3:45:33 | 19.85 | 1.218 | 17.82 | 6.262 | 4.1 | 131.5 | -131 | 2.7 | 0.24 |
| 4/14/2012 | 3:50:33 | 19.82 | 1.218 | 17.82 | 6.268 | 4.1 | 131.5 | -133 | 2.7 | 0.25 |
| 4/14/2012 | 3:55:33 | 19.82 | 1.217 | 17.82 | 6.266 | 4.1 | 131.5 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 4:00:33 | 19.82 | 1.217 | 17.82 | 6.268 | 4.1 | 131.5 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 4:05:32 | 19.81 | 1.217 | 17.82 | 6.268 | 4.1 | 131.4 | -135 | 2.7 | 0.25 |
| 4/14/2012 | 4:10:33 | 19.82 | 1.217 | 17.82 | 6.272 | 4.1 | 131.5 | -135 | 2.7 | 0.25 |
| 4/14/2012 | 4:15:33 | 19.82 | 1.216 | 17.82 | 6.267 | 4.1 | 131.5 | -135 | 2.7 | 0.25 |
| 4/14/2012 | 4:20:33 | 19.85 | 1.216 | 17.82 | 6.266 | 4.1 | 131.4 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 4:25:32 | 19.88 | 1.216 | 17.82 | 6.268 | 4.1 | 131.4 | -133 | 2.7 | 0.25 |
| 4/14/2012 | 4:30:33 | 19.98 | 1.214 | 17.82 | 6.271 | 4.1 | 131.4 | -129 | 2.7 | 0.24 |
| 4/14/2012 | 4:35:33 | 19.97 | 1.215 | 17.82 | 6.273 | 4.1 | 131.4 | -127 | 2.7 | 0.24 |
| 4/14/2012 | 4:40:33 | 19.97 | 1.215 | 17.82 | 6.274 | 4.1 | 131.4 | -127 | 2.7 | 0.24 |
| 4/14/2012 | 4:45:33 | 19.93 | 1.216 | 17.82 | 6.274 | 4.1 | 131.3 | -129 | 2.7 | 0.24 |
| 4/14/2012 | 4:50:33 | 19.91 | 1.216 | 17.82 | 6.269 | 4.1 | 131.4 | -130 | 2.7 | 0.24 |
| 4/14/2012 | 4:55:33 | 19.88 | 1.216 | 17.82 | 6.273 | 4.1 | 131.4 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 5:00:33 | 19.93 | 1.215 | 17.83 | 6.275 | 4.1 | 131.4 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 5:05:33 | 19.86 | 1.216 | 17.83 | 6.275 | 4.1 | 131.4 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 5:10:33 | 19.86 | 1.216 | 17.83 | 6.278 | 4.1 | 131.4 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 5:15:33 | 19.96 | 1.214 | 17.83 | 6.28 | 4.1 | 131.4 | -130 | 2.7 | 0.24 |
| 4/14/2012 | 5:20:33 | 19.9 | 1.216 | 17.83 | 6.282 | 4.1 | 131.3 | -131 | 2.7 | 0.24 |
| 4/14/2012 | 5:25:33 | 19.88 | 1.215 | 17.83 | 6.285 | 4.1 | 131.3 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 5:30:33 | 19.86 | 1.215 | 17.83 | 6.283 | 4.1 | 131.4 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 5:35:33 | 19.89 | 1.216 | 17.83 | 6.28 | 4.1 | 131.4 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 5:40:33 | 19.89 | 1.216 | 17.83 | 6.283 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 5:45:32 | 19.87 | 1.216 | 17.83 | 6.285 | 4.1 | 131.3 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 5:50:32 | 19.84 | 1.216 | 17.83 | 6.286 | 4.1 | 131.3 | -132 | 2.7 | 0.25 |
| 4/14/2012 | 5:55:32 | 19.83 | 1.216 | 17.83 | 6.291 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 6:00:33 | 19.81 | 1.216 | 17.83 | 6.293 | 4.1 | 131.3 | -135 | 2.7 | 0.25 |
| 4/14/2012 | 6:05:33 | 19.8 | 1.216 | 17.83 | 6.295 | 4.1 | 131.3 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 6:10:33 | 19.79 | 1.216 | 17.83 | 6.298 | 4.1 | 131.3 | -137 | 2.7 | 0.24 |
| 4/14/2012 | 6:15:33 | 19.8 | 1.216 | 17.83 | 6.299 | 4.1 | 131.3 | -138 | 2.7 | 0.25 |
| 4/14/2012 | 6:20:33 | 19.81 | 1.217 | 17.83 | 6.297 | 4.1 | 131.3 | -139 | 2.7 | 0.25 |
| 4/14/2012 | 6:25:33 | 19.85 | 1.216 | 17.84 | 6.3 | 4.1 | 131.2 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 6:30:33 | 19.85 | 1.216 | 17.84 | 6.303 | 4.11 | 131.2 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 6:35:33 | 19.84 | 1.216 | 17.84 | 6.301 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 6:40:33 | 19.83 | 1.216 | 17.84 | 6.302 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 6:45:33 | 19.9 | 1.216 | 17.84 | 6.303 | 4.11 | 131.2 | -132 | 2.7 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 6:50:33 | 19.91 | 1.214 | 17.84 | 6.302 | 4.11 | 131.2 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 6:55:33 | 19.86 | 1.215 | 17.84 | 6.308 | 4.1 | 131.2 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 7:00:33 | 19.83 | 1.215 | 17.84 | 6.311 | 4.1 | 131.3 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 7:05:33 | 19.87 | 1.215 | 17.84 | 6.31 | 4.1 | 131.3 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 7:10:32 | 19.84 | 1.215 | 17.84 | 6.308 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 7:15:33 | 19.85 | 1.216 | 17.84 | 6.31 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 7:20:33 | 19.86 | 1.216 | 17.84 | 6.313 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 7:25:33 | 19.89 | 1.215 | 17.84 | 6.316 | 4.1 | 131.3 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 7:30:33 | 19.86 | 1.216 | 17.84 | 6.317 | 4.1 | 131.3 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 7:35:32 | 19.86 | 1.215 | 17.84 | 6.318 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 7:40:32 | 19.85 | 1.215 | 17.84 | 6.317 | 4.1 | 131.3 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 7:45:33 | 19.83 | 1.215 | 17.84 | 6.32 | 4.1 | 131.3 | -135 | 2.7 | 0.25 |
| 4/14/2012 | 7:50:33 | 19.92 | 1.214 | 17.85 | 6.323 | 4.1 | 131.3 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 7:55:33 | 19.93 | 1.215 | 17.84 | 6.316 | 4.1 | 131.3 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 8:00:33 | 19.94 | 1.214 | 17.84 | 6.317 | 4.11 | 131.2 | -131 | 2.7 | 0.24 |
| 4/14/2012 | 8:05:33 | 19.9 | 1.215 | 17.84 | 6.318 | 4.11 | 131.2 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 8:10:33 | 19.89 | 1.214 | 17.84 | 6.318 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 8:15:33 | 19.92 | 1.214 | 17.84 | 6.312 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 8:20:32 | 19.9 | 1.214 | 17.84 | 6.315 | 4.11 | 131.2 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 8:25:33 | 19.88 | 1.214 | 17.84 | 6.309 | 4.11 | 131.2 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 8:30:33 | 19.85 | 1.214 | 17.84 | 6.308 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 8:35:33 | 19.86 | 1.214 | 17.84 | 6.312 | 4.1 | 131.2 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 8:40:33 | 19.86 | 1.214 | 17.84 | 6.311 | 4.1 | 131.3 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 8:45:33 | 19.84 | 1.214 | 17.84 | 6.318 | 4.11 | 131.2 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 8:50:33 | 19.91 | 1.213 | 17.85 | 6.322 | 4.11 | 131.2 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 8:55:33 | 19.86 | 1.214 | 17.85 | 6.323 | 4.11 | 131.2 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 9:00:33 | 19.86 | 1.214 | 17.85 | 6.325 | 4.11 | 131.2 | -134 | 2.7 | 0.25 |
| 4/14/2012 | 9:05:33 | 19.89 | 1.214 | 17.84 | 6.319 | 4.11 | 131.2 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 9:10:33 | 19.89 | 1.214 | 17.84 | 6.32 | 4.11 | 131.2 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 9:15:33 | 19.85 | 1.214 | 17.84 | 6.318 | 4.11 | 131.2 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 9:20:32 | 19.85 | 1.213 | 17.84 | 6.316 | 4.11 | 131.2 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 9:25:32 | 19.88 | 1.214 | 17.84 | 6.317 | 4.1 | 131.3 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 9:30:33 | 19.86 | 1.214 | 17.84 | 6.316 | 4.1 | 131.2 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 9:35:33 | 19.9 | 1.213 | 17.84 | 6.319 | 4.1 | 131.3 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 9:40:33 | 19.9 | 1.213 | 17.84 | 6.319 | 4.11 | 131.2 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 9:45:33 | 19.9 | 1.212 | 17.84 | 6.32 | 4.11 | 131.3 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 9:50:33 | 19.87 | 1.213 | 17.85 | 6.322 | 4.1 | 131.2 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 9:55:33 | 19.88 | 1.212 | 17.84 | 6.308 | 4.11 | 131.2 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 10:00:33 | 19.89 | 1.212 | 17.84 | 6.307 | 4.1 | 131.3 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 10:05:32 | 19.86 | 1.212 | 17.84 | 6.313 | 4.11 | 131.2 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 10:10:33 | 19.9 | 1.212 | 17.84 | 6.311 | 4.1 | 131.3 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 10:15:33 | 19.93 | 1.213 | 17.84 | 6.315 | 4.11 | 131.2 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 10:20:33 | 19.92 | 1.213 | 17.84 | 6.315 | 4.11 | 131.2 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 10:25:33 | 19.88 | 1.212 | 17.84 | 6.318 | 4.11 | 131.2 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 10:30:33 | 19.88 | 1.212 | 17.84 | 6.315 | 4.1 | 131.3 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 10:35:33 | 19.89 | 1.212 | 17.84 | 6.318 | 4.11 | 131.2 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 10:40:33 | 19.97 | 1.21 | 17.84 | 6.316 | 4.11 | 131.3 | -130 | 2.7 | 0.24 |
| 4/14/2012 | 10:45:33 | 19.95 | 1.211 | 17.84 | 6.318 | 4.11 | 131.2 | -132 | 2.7 | 0.24 |
| 4/14/2012 | 10:50:32 | 19.94 | 1.211 | 17.84 | 6.321 | 4.11 | 131.2 | -133 | 2.7 | 0.24 |
| 4/14/2012 | 10:55:33 | 19.9 | 1.212 | 17.84 | 6.319 | 4.11 | 131.2 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 11:00:33 | 19.87 | 1.212 | 17.84 | 6.32 | 4.11 | 131.2 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 11:05:33 | 19.86 | 1.212 | 17.84 | 6.32 | 4.1 | 131.3 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 11:10:33 | 19.85 | 1.212 | 17.85 | 6.322 | 4.11 | 131.2 | -137 | 2.7 | 0.24 |
| 4/14/2012 | 11:15:32 | 19.83 | 1.212 | 17.84 | 6.321 | 4.1 | 131.3 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 11:20:33 | 19.9 | 1.212 | 17.84 | 6.319 | 4.11 | 131.2 | -136 | 2.7 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 11:25:33 | 19.88 | 1.212 | 17.84 | 6.319 | 4.11 | 131.2 | -137 | 2.7 | 0.24 |
| 4/14/2012 | 11:30:33 | 19.86 | 1.212 | 17.84 | 6.319 | 4.11 | 131.2 | -137 | 2.7 | 0.24 |
| 4/14/2012 | 11:35:33 | 19.85 | 1.212 | 17.84 | 6.316 | 4.11 | 131.2 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 11:40:32 | 19.85 | 1.212 | 17.84 | 6.315 | 4.11 | 131.2 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 11:45:33 | 19.84 | 1.212 | 17.84 | 6.313 | 4.11 | 131.2 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 11:50:33 | 19.87 | 1.211 | 17.84 | 6.312 | 4.11 | 131.2 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 11:55:33 | 19.92 | 1.211 | 17.84 | 6.311 | 4.11 | 131.2 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 12:00:33 | 19.88 | 1.212 | 17.84 | 6.31 | 4.11 | 131.1 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 12:05:33 | 19.85 | 1.212 | 17.84 | 6.309 | 4.11 | 131.1 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 12:10:33 | 19.85 | 1.212 | 17.84 | 6.308 | 4.11 | 131.2 | -137 | 2.7 | 0.24 |
| 4/14/2012 | 12:15:32 | 19.88 | 1.212 | 17.84 | 6.306 | 4.11 | 131.2 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 12:20:32 | 19.89 | 1.212 | 17.84 | 6.31 | 4.11 | 131.2 | -135 | 2.7 | 0.24 |
| 4/14/2012 | 12:25:33 | 19.9 | 1.211 | 17.84 | 6.306 | 4.11 | 131.2 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 12:30:32 | 19.88 | 1.211 | 17.84 | 6.306 | 4.11 | 131.1 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 12:35:32 | 19.88 | 1.211 | 17.84 | 6.305 | 4.11 | 131.2 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 12:40:33 | 19.87 | 1.211 | 17.84 | 6.303 | 4.11 | 131.2 | -137 | 2.7 | 0.24 |
| 4/14/2012 | 12:45:33 | 19.86 | 1.211 | 17.84 | 6.304 | 4.11 | 131.1 | -137 | 2.7 | 0.24 |
| 4/14/2012 | 12:50:33 | 19.86 | 1.211 | 17.83 | 6.296 | 4.11 | 131.1 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 12:55:33 | 19.91 | 1.21 | 17.84 | 6.301 | 4.11 | 131.1 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 13:00:33 | 19.88 | 1.21 | 17.83 | 6.297 | 4.11 | 131.1 | -137 | 2.7 | 0.24 |
| 4/14/2012 | 13:05:33 | 19.86 | 1.21 | 17.83 | 6.295 | 4.11 | 131.1 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 13:10:33 | 19.85 | 1.211 | 17.83 | 6.293 | 4.11 | 131.1 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 13:15:33 | 19.89 | 1.21 | 17.83 | 6.294 | 4.11 | 131.1 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 13:20:33 | 19.86 | 1.21 | 17.83 | 6.295 | 4.11 | 131.1 | -137 | 2.7 | 0.24 |
| 4/14/2012 | 13:25:33 | 19.86 | 1.21 | 17.83 | 6.293 | 4.11 | 131.1 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 13:30:33 | 19.84 | 1.21 | 17.83 | 6.294 | 4.11 | 131.1 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 13:35:33 | 19.84 | 1.21 | 17.83 | 6.292 | 4.11 | 131.1 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 13:40:33 | 19.86 | 1.211 | 17.83 | 6.291 | 4.11 | 131.1 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 13:45:33 | 19.88 | 1.21 | 17.83 | 6.291 | 4.11 | 131 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 13:50:32 | 19.88 | 1.21 | 17.83 | 6.287 | 4.11 | 131 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 13:55:33 | 19.98 | 1.208 | 17.83 | 6.29 | 4.11 | 131 | -134 | 2.7 | 0.24 |
| 4/14/2012 | 14:00:32 | 19.93 | 1.209 | 17.83 | 6.288 | 4.11 | 131 | -136 | 2.7 | 0.24 |
| 4/14/2012 | 14:05:33 | 19.9 | 1.209 | 17.83 | 6.288 | 4.11 | 131 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 14:10:33 | 19.9 | 1.21 | 17.83 | 6.287 | 4.11 | 131 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 14:15:33 | 19.89 | 1.21 | 17.82 | 6.275 | 4.11 | 131 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 14:20:33 | 19.88 | 1.21 | 17.82 | 6.274 | 4.11 | 131 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 14:25:33 | 19.88 | 1.21 | 17.82 | 6.271 | 4.11 | 131 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 14:30:33 | 19.86 | 1.21 | 17.82 | 6.271 | 4.11 | 131.2 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 14:35:33 | 19.84 | 1.21 | 17.82 | 6.267 | 4.11 | 131.1 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 14:40:33 | 19.84 | 1.211 | 17.82 | 6.267 | 4.11 | 131.1 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 14:45:33 | 19.85 | 1.21 | 17.82 | 6.264 | 4.11 | 131.1 | -141 | 2.7 | 0.24 |
| 4/14/2012 | 14:50:33 | 19.88 | 1.21 | 17.82 | 6.266 | 4.11 | 131 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 14:55:32 | 19.87 | 1.21 | 17.82 | 6.267 | 4.11 | 131.1 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 15:00:33 | 19.89 | 1.211 | 17.82 | 6.264 | 4.11 | 131 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 15:05:33 | 19.87 | 1.211 | 17.82 | 6.263 | 4.11 | 131 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 15:10:33 | 19.93 | 1.21 | 17.82 | 6.261 | 4.11 | 131 | -137 | 2.7 | 0.24 |
| 4/14/2012 | 15:15:33 | 19.94 | 1.21 | 17.82 | 6.258 | 4.11 | 131 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 15:20:33 | 19.88 | 1.21 | 17.82 | 6.26 | 4.11 | 131 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 15:25:33 | 19.93 | 1.209 | 17.82 | 6.258 | 4.11 | 131 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 15:30:33 | 19.93 | 1.21 | 17.82 | 6.256 | 4.11 | 131 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 15:35:33 | 19.9 | 1.21 | 17.82 | 6.253 | 4.11 | 131 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 15:40:32 | 19.88 | 1.21 | 17.81 | 6.249 | 4.11 | 131 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 15:45:33 | 19.87 | 1.21 | 17.81 | 6.248 | 4.11 | 131.1 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 15:50:33 | 19.91 | 1.21 | 17.81 | 6.243 | 4.11 | 131.1 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 15:55:33 | 19.88 | 1.211 | 17.81 | 6.247 | 4.11 | 131 | -139 | 2.7 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 16:00:33 | 19.87 | 1.211 | 17.81 | 6.246 | 4.11 | 131 | -139 | 2.7 | 0.24 |
| 4/14/2012 | 16:05:33 | 19.86 | 1.211 | 17.81 | 6.245 | 4.11 | 131 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 16:10:33 | 19.86 | 1.211 | 17.81 | 6.244 | 4.11 | 131.1 | -141 | 2.7 | 0.24 |
| 4/14/2012 | 16:15:33 | 19.92 | 1.21 | 17.81 | 6.24 | 4.11 | 131 | -141 | 2.7 | 0.24 |
| 4/14/2012 | 16:20:32 | 19.9 | 1.21 | 17.81 | 6.242 | 4.11 | 131.1 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 16:25:32 | 19.87 | 1.211 | 17.81 | 6.242 | 4.11 | 131.1 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 16:30:33 | 19.9 | 1.21 | 17.81 | 6.238 | 4.11 | 131.1 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 16:35:33 | 19.88 | 1.21 | 17.81 | 6.237 | 4.11 | 131.1 | -141 | 2.7 | 0.24 |
| 4/14/2012 | 16:40:32 | 19.86 | 1.211 | 17.81 | 6.238 | 4.11 | 131.2 | -141 | 2.7 | 0.24 |
| 4/14/2012 | 16:45:33 | 19.97 | 1.21 | 17.81 | 6.237 | 4.11 | 131.1 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 16:50:33 | 19.96 | 1.21 | 17.81 | 6.24 | 4.11 | 131.1 | -138 | 2.7 | 0.24 |
| 4/14/2012 | 16:55:32 | 19.91 | 1.21 | 17.81 | 6.238 | 4.11 | 131.2 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 17:00:33 | 19.88 | 1.21 | 17.81 | 6.239 | 4.11 | 131.1 | -141 | 2.7 | 0.24 |
| 4/14/2012 | 17:05:32 | 19.87 | 1.211 | 17.81 | 6.24 | 4.11 | 131.1 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 17:10:33 | 19.86 | 1.211 | 17.81 | 6.238 | 4.11 | 131.1 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 17:15:33 | 19.85 | 1.211 | 17.81 | 6.237 | 4.11 | 131.1 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 17:20:33 | 19.83 | 1.211 | 17.81 | 6.239 | 4.11 | 131.1 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 17:25:33 | 19.85 | 1.211 | 17.81 | 6.239 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 17:30:33 | 19.85 | 1.212 | 17.81 | 6.242 | 4.11 | 131.1 | -141 | 2.7 | 0.24 |
| 4/14/2012 | 17:35:33 | 19.83 | 1.211 | 17.81 | 6.242 | 4.11 | 131.1 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 17:40:32 | 19.83 | 1.211 | 17.81 | 6.243 | 4.11 | 131.1 | -143 | 2.7 | 0.25 |
| 4/14/2012 | 17:45:32 | 19.82 | 1.211 | 17.81 | 6.244 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 17:50:32 | 19.82 | 1.211 | 17.81 | 6.244 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 17:55:32 | 19.84 | 1.212 | 17.81 | 6.245 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/14/2012 | 18:00:32 | 19.82 | 1.212 | 17.81 | 6.245 | 4.11 | 131.1 | -146 | 2.7 | 0.24 |
| 4/14/2012 | 18:05:32 | 19.82 | 1.212 | 17.81 | 6.245 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/14/2012 | 18:10:33 | 19.92 | 1.211 | 17.81 | 6.247 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 18:15:33 | 19.9 | 1.212 | 17.81 | 6.248 | 4.11 | 131.1 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 18:20:33 | 19.88 | 1.211 | 17.81 | 6.248 | 4.11 | 131.1 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 18:25:32 | 19.93 | 1.211 | 17.81 | 6.25 | 4.11 | 131.2 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 18:30:33 | 19.9 | 1.212 | 17.81 | 6.249 | 4.11 | 131.1 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 18:35:33 | 19.91 | 1.212 | 17.81 | 6.248 | 4.11 | 131.2 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 18:40:33 | 19.89 | 1.211 | 17.81 | 6.251 | 4.11 | 131.1 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 18:45:33 | 19.91 | 1.211 | 17.81 | 6.245 | 4.11 | 131.1 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 18:50:33 | 19.98 | 1.209 | 17.81 | 6.244 | 4.11 | 131.2 | -140 | 2.7 | 0.24 |
| 4/14/2012 | 18:55:33 | 19.94 | 1.211 | 17.81 | 6.245 | 4.11 | 131.2 | -141 | 2.7 | 0.24 |
| 4/14/2012 | 19:00:33 | 19.93 | 1.211 | 17.81 | 6.246 | 4.11 | 131.2 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 19:05:33 | 19.92 | 1.21 | 17.81 | 6.245 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 19:10:33 | 19.9 | 1.211 | 17.81 | 6.245 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 19:15:33 | 19.91 | 1.211 | 17.81 | 6.244 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 19:20:33 | 19.89 | 1.212 | 17.81 | 6.247 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 19:25:33 | 19.86 | 1.211 | 17.81 | 6.248 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 19:30:33 | 19.87 | 1.211 | 17.81 | 6.246 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 19:35:33 | 19.95 | 1.21 | 17.81 | 6.244 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 19:40:33 | 19.91 | 1.211 | 17.81 | 6.246 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 19:45:33 | 19.9 | 1.211 | 17.81 | 6.244 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 19:50:33 | 19.92 | 1.211 | 17.81 | 6.244 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 19:55:33 | 19.92 | 1.212 | 17.81 | 6.243 | 4.11 | 131.2 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 20:00:33 | 19.91 | 1.212 | 17.81 | 6.244 | 4.11 | 131.2 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 20:05:33 | 19.89 | 1.211 | 17.81 | 6.241 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 20:10:33 | 19.9 | 1.211 | 17.81 | 6.245 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 20:15:33 | 19.89 | 1.211 | 17.81 | 6.244 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 20:20:33 | 19.9 | 1.211 | 17.81 | 6.244 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 20:25:33 | 19.88 | 1.211 | 17.81 | 6.245 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 20:30:33 | 19.88 | 1.212 | 17.81 | 6.246 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 20:35:33 | 19.91 | 1.211 | 17.81 | 6.246 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 20:40:33 | 19.93 | 1.211 | 17.81 | 6.241 | 4.11 | 131.2 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 20:45:33 | 19.93 | 1.211 | 17.81 | 6.241 | 4.11 | 131.2 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 20:50:33 | 19.94 | 1.211 | 17.81 | 6.241 | 4.11 | 131.2 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 20:55:32 | 19.88 | 1.211 | 17.81 | 6.245 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 21:00:32 | 19.87 | 1.211 | 17.81 | 6.242 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 21:05:33 | 19.86 | 1.211 | 17.81 | 6.246 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 21:10:33 | 19.9 | 1.212 | 17.81 | 6.245 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 21:15:33 | 19.87 | 1.212 | 17.81 | 6.244 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 21:20:33 | 19.87 | 1.211 | 17.81 | 6.244 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 21:25:33 | 19.87 | 1.211 | 17.81 | 6.245 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 21:30:33 | 19.89 | 1.212 | 17.81 | 6.245 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 21:35:33 | 19.88 | 1.211 | 17.81 | 6.246 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 21:40:33 | 19.86 | 1.211 | 17.81 | 6.246 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 21:45:33 | 19.86 | 1.211 | 17.81 | 6.249 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 21:50:33 | 19.86 | 1.211 | 17.81 | 6.248 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 21:55:33 | 19.89 | 1.211 | 17.81 | 6.247 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 22:00:32 | 19.87 | 1.212 | 17.81 | 6.248 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 22:05:33 | 19.89 | 1.212 | 17.81 | 6.247 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 22:10:33 | 19.87 | 1.212 | 17.81 | 6.247 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 22:15:33 | 19.86 | 1.211 | 17.81 | 6.25 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 22:20:33 | 19.84 | 1.211 | 17.81 | 6.249 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 22:25:33 | 19.86 | 1.211 | 17.81 | 6.25 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/14/2012 | 22:30:33 | 19.97 | 1.21 | 17.81 | 6.25 | 4.11 | 131.2 | -142 | 2.7 | 0.24 |
| 4/14/2012 | 22:35:33 | 19.93 | 1.21 | 17.81 | 6.248 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 22:40:33 | 19.91 | 1.21 | 17.81 | 6.248 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 22:45:33 | 19.89 | 1.211 | 17.81 | 6.245 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 22:50:33 | 19.95 | 1.21 | 17.81 | 6.243 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 22:55:33 | 19.94 | 1.21 | 17.81 | 6.24 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 23:00:32 | 19.89 | 1.21 | 17.81 | 6.238 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 23:05:33 | 19.9 | 1.211 | 17.81 | 6.239 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 23:10:33 | 19.88 | 1.211 | 17.81 | 6.238 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 23:15:33 | 19.91 | 1.21 | 17.81 | 6.238 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 23:20:33 | 19.95 | 1.21 | 17.81 | 6.24 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 23:25:33 | 19.92 | 1.21 | 17.81 | 6.237 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 23:30:33 | 19.9 | 1.21 | 17.81 | 6.235 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/14/2012 | 23:35:33 | 19.88 | 1.209 | 17.81 | 6.236 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/14/2012 | 23:40:33 | 19.88 | 1.21 | 17.81 | 6.236 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/14/2012 | 23:45:33 | 19.89 | 1.21 | 17.81 | 6.239 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/14/2012 | 23:50:33 | 19.88 | 1.21 | 17.81 | 6.237 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/14/2012 | 23:55:33 | 19.88 | 1.21 | 17.81 | 6.235 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 0:00:33 | 19.86 | 1.21 | 17.81 | 6.233 | 4.11 | 131.1 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 0:05:33 | 19.87 | 1.21 | 17.81 | 6.234 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 0:10:33 | 19.86 | 1.21 | 17.81 | 6.233 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 0:15:33 | 19.86 | 1.21 | 17.81 | 6.231 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 0:20:33 | 19.85 | 1.21 | 17.81 | 6.232 | 4.11 | 131.2 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 0:25:33 | 19.88 | 1.21 | 17.81 | 6.233 | 4.11 | 131.2 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 0:30:33 | 19.87 | 1.21 | 17.81 | 6.232 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 0:35:33 | 19.92 | 1.209 | 17.8 | 6.21 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 0:40:33 | 19.89 | 1.21 | 17.8 | 6.215 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 0:45:33 | 19.92 | 1.209 | 17.8 | 6.216 | 4.11 | 131.1 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 0:50:33 | 19.89 | 1.209 | 17.8 | 6.216 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 0:55:33 | 19.89 | 1.209 | 17.8 | 6.216 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 1:00:33 | 19.96 | 1.208 | 17.8 | 6.221 | 4.11 | 131.2 | -142 | 2.7 | 0.24 |
| 4/15/2012 | 1:05:33 | 19.92 | 1.209 | 17.8 | 6.223 | 4.11 | 131.2 | -142 | 2.7 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 1:10:33 | 19.89 | 1.209 | 17.8 | 6.222 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/15/2012 | 1:15:33 | 19.88 | 1.209 | 17.8 | 6.22 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/15/2012 | 1:20:33 | 19.89 | 1.21 | 17.8 | 6.22 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 1:25:33 | 19.94 | 1.21 | 17.8 | 6.219 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 1:30:33 | 19.89 | 1.21 | 17.8 | 6.217 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/15/2012 | 1:35:33 | 19.9 | 1.21 | 17.8 | 6.214 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/15/2012 | 1:40:33 | 19.92 | 1.21 | 17.8 | 6.212 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/15/2012 | 1:45:33 | 19.89 | 1.21 | 17.8 | 6.213 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/15/2012 | 1:50:33 | 19.96 | 1.209 | 17.8 | 6.211 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/15/2012 | 1:55:33 | 19.93 | 1.21 | 17.8 | 6.209 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/15/2012 | 2:00:33 | 19.9 | 1.21 | 17.8 | 6.207 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 2:05:33 | 19.87 | 1.209 | 17.79 | 6.206 | 4.1 | 131.2 | -145 | 2.7 | 0.24 |
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| 4/15/2012 | 2:20:33 | 19.87 | 1.21 | 17.79 | 6.202 | 4.1 | 131.3 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 2:25:33 | 19.87 | 1.21 | 17.79 | 6.197 | 4.1 | 131.2 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 2:30:33 | 19.86 | 1.21 | 17.79 | 6.201 | 4.1 | 131.3 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 2:35:33 | 19.87 | 1.21 | 17.79 | 6.197 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 2:40:33 | 19.86 | 1.21 | 17.79 | 6.199 | 4.11 | 131.2 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 2:45:33 | 19.87 | 1.21 | 17.79 | 6.196 | 4.1 | 131.2 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 2:50:33 | 19.86 | 1.21 | 17.79 | 6.195 | 4.1 | 131.2 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 2:55:33 | 19.86 | 1.211 | 17.79 | 6.193 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 3:00:33 | 19.87 | 1.21 | 17.79 | 6.197 | 4.1 | 131.3 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 3:05:33 | 19.87 | 1.21 | 17.79 | 6.195 | 4.1 | 131.2 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 3:10:33 | 19.95 | 1.209 | 17.79 | 6.195 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 3:15:33 | 19.93 | 1.21 | 17.79 | 6.194 | 4.11 | 131.2 | -144 | 2.7 | 0.24 |
| 4/15/2012 | 3:20:32 | 19.95 | 1.209 | 17.79 | 6.192 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 3:25:33 | 19.99 | 1.208 | 17.79 | 6.195 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/15/2012 | 3:30:33 | 19.97 | 1.208 | 17.79 | 6.193 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/15/2012 | 3:35:33 | 19.97 | 1.209 | 17.79 | 6.192 | 4.11 | 131.2 | -143 | 2.7 | 0.24 |
| 4/15/2012 | 3:40:33 | 19.94 | 1.209 | 17.79 | 6.191 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 3:45:33 | 19.94 | 1.21 | 17.79 | 6.189 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 3:50:33 | 19.95 | 1.21 | 17.79 | 6.189 | 4.11 | 131.3 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 3:55:33 | 19.93 | 1.21 | 17.79 | 6.19 | 4.11 | 131.2 | -145 | 2.7 | 0.24 |
| 4/15/2012 | 4:00:33 | 19.89 | 1.21 | 17.79 | 6.192 | 4.1 | 131.3 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 4:05:33 | 19.87 | 1.21 | 17.79 | 6.194 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 4:10:33 | 19.87 | 1.21 | 17.79 | 6.19 | 4.1 | 131.3 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 4:15:33 | 19.93 | 1.21 | 17.79 | 6.193 | 4.1 | 131.3 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 4:20:33 | 19.89 | 1.21 | 17.79 | 6.192 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 4:25:33 | 19.95 | 1.21 | 17.79 | 6.19 | 4.11 | 131.3 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 4:30:33 | 19.89 | 1.211 | 17.79 | 6.192 | 4.1 | 131.3 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 4:35:33 | 19.91 | 1.21 | 17.79 | 6.193 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 4:40:33 | 19.89 | 1.211 | 17.79 | 6.192 | 4.1 | 131.3 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 4:45:33 | 19.87 | 1.211 | 17.79 | 6.19 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 4:50:33 | 19.85 | 1.21 | 17.79 | 6.191 | 4.1 | 131.3 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 4:55:33 | 19.86 | 1.21 | 17.79 | 6.191 | 4.1 | 131.3 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 5:00:33 | 19.89 | 1.21 | 17.79 | 6.189 | 4.1 | 131.3 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 5:05:32 | 19.9 | 1.211 | 17.79 | 6.191 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 5:10:33 | 19.92 | 1.21 | 17.79 | 6.193 | 4.1 | 131.3 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 5:15:33 | 19.89 | 1.211 | 17.79 | 6.193 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 5:20:33 | 19.87 | 1.21 | 17.79 | 6.194 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 5:25:33 | 19.86 | 1.21 | 17.79 | 6.197 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 5:30:33 | 19.89 | 1.21 | 17.79 | 6.195 | 4.1 | 131.3 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 5:35:33 | 20 | 1.208 | 17.79 | 6.195 | 4.1 | 131.3 | -144 | 2.7 | 0.24 |
| 4/15/2012 | 5:40:33 | 19.96 | 1.209 | 17.79 | 6.195 | 4.1 | 131.3 | -145 | 2.7 | 0.24 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 5:45:33 | 19.93 | 1.21 | 17.79 | 6.199 | 4.1 | 131.3 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 5:50:33 | 19.9 | 1.209 | 17.79 | 6.199 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 5:55:33 | 19.89 | 1.209 | 17.79 | 6.2 | 4.1 | 131.3 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 6:00:33 | 19.88 | 1.21 | 17.79 | 6.201 | 4.1 | 131.3 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 6:05:33 | 19.94 | 1.21 | 17.79 | 6.201 | 4.1 | 131.3 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 6:10:33 | 19.9 | 1.21 | 17.79 | 6.206 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 6:15:33 | 19.92 | 1.21 | 17.79 | 6.203 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 6:20:33 | 19.9 | 1.21 | 17.79 | 6.205 | 4.1 | 131.3 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 6:25:33 | 19.89 | 1.21 | 17.8 | 6.206 | 4.1 | 131.4 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 6:30:33 | 19.88 | 1.21 | 17.8 | 6.208 | 4.1 | 131.4 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 6:35:33 | 19.95 | 1.209 | 17.8 | 6.212 | 4.1 | 131.4 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 6:40:33 | 19.92 | 1.21 | 17.8 | 6.212 | 4.1 | 131.3 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 6:45:33 | 19.91 | 1.21 | 17.8 | 6.213 | 4.1 | 131.4 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 6:50:33 | 19.92 | 1.21 | 17.8 | 6.214 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 6:55:33 | 19.91 | 1.209 | 17.8 | 6.216 | 4.1 | 131.4 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 7:00:32 | 19.9 | 1.21 | 17.8 | 6.218 | 4.1 | 131.3 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 7:05:33 | 19.89 | 1.209 | 17.8 | 6.215 | 4.1 | 131.4 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 7:10:32 | 19.87 | 1.21 | 17.8 | 6.217 | 4.1 | 131.4 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 7:15:32 | 19.88 | 1.21 | 17.8 | 6.218 | 4.1 | 131.4 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 7:20:32 | 19.86 | 1.21 | 17.8 | 6.219 | 4.1 | 131.4 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 7:25:33 | 19.87 | 1.21 | 17.8 | 6.22 | 4.1 | 131.4 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 7:30:33 | 19.87 | 1.21 | 17.8 | 6.222 | 4.1 | 131.5 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 7:35:32 | 19.89 | 1.21 | 17.8 | 6.223 | 4.1 | 131.4 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 7:40:32 | 19.87 | 1.21 | 17.8 | 6.221 | 4.1 | 131.4 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 7:45:33 | 19.85 | 1.21 | 17.8 | 6.223 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 7:50:33 | 19.84 | 1.21 | 17.8 | 6.225 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 7:55:33 | 19.83 | 1.209 | 17.8 | 6.224 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 8:00:33 | 19.83 | 1.209 | 17.8 | 6.225 | 4.1 | 131.5 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 8:05:33 | 19.84 | 1.209 | 17.8 | 6.224 | 4.1 | 131.5 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 8:10:33 | 19.84 | 1.21 | 17.8 | 6.222 | 4.1 | 131.5 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 8:15:33 | 19.85 | 1.21 | 17.8 | 6.221 | 4.1 | 131.5 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 8:20:33 | 19.84 | 1.209 | 17.8 | 6.224 | 4.1 | 131.5 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 8:25:33 | 19.85 | 1.209 | 17.8 | 6.224 | 4.1 | 131.5 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 8:30:33 | 19.86 | 1.21 | 17.8 | 6.223 | 4.1 | 131.5 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 8:35:32 | 19.99 | 1.206 | 17.8 | 6.223 | 4.1 | 131.5 | -149 | 2.7 | 0.24 |
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| 4/15/2012 | 8:45:33 | 19.95 | 1.209 | 17.8 | 6.221 | 4.1 | 131.4 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 8:50:32 | 19.92 | 1.208 | 17.8 | 6.219 | 4.1 | 131.4 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 8:55:33 | 19.91 | 1.209 | 17.8 | 6.224 | 4.1 | 131.4 | -148 | 2.7 | 0.24 |
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| 4/15/2012 | 9:10:33 | 19.9 | 1.208 | 17.8 | 6.222 | 4.1 | 131.5 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 9:15:33 | 19.9 | 1.208 | 17.8 | 6.216 | 4.1 | 131.5 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 9:20:33 | 19.9 | 1.208 | 17.8 | 6.215 | 4.1 | 131.5 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 9:25:33 | 19.89 | 1.208 | 17.8 | 6.214 | 4.1 | 131.5 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 9:30:33 | 19.9 | 1.208 | 17.8 | 6.213 | 4.1 | 131.5 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 9:35:33 | 19.89 | 1.209 | 17.8 | 6.219 | 4.1 | 131.5 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 9:40:33 | 19.88 | 1.208 | 17.8 | 6.219 | 4.1 | 131.5 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 9:45:33 | 19.99 | 1.207 | 17.8 | 6.207 | 4.1 | 131.5 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 9:50:33 | 19.95 | 1.207 | 17.8 | 6.211 | 4.1 | 131.5 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 9:55:33 | 19.96 | 1.208 | 17.8 | 6.21 | 4.1 | 131.5 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 10:00:33 | 19.94 | 1.208 | 17.8 | 6.216 | 4.1 | 131.5 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 10:05:33 | 19.9 | 1.208 | 17.8 | 6.218 | 4.1 | 131.5 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 10:10:33 | 19.88 | 1.208 | 17.8 | 6.218 | 4.1 | 131.5 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 10:15:33 | 19.87 | 1.208 | 17.8 | 6.219 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 10:20:32 | 19.88 | 1.208 | 17.8 | 6.224 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 10:25:33 | 19.89 | 1.208 | 17.8 | 6.225 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 10:30:33 | 19.89 | 1.208 | 17.8 | 6.226 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 10:35:33 | 19.88 | 1.208 | 17.8 | 6.224 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 10:40:33 | 19.88 | 1.208 | 17.8 | 6.222 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 10:45:33 | 20 | 1.205 | 17.8 | 6.222 | 4.1 | 131.5 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 10:50:32 | 19.98 | 1.206 | 17.8 | 6.222 | 4.1 | 131.5 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 10:55:33 | 19.98 | 1.205 | 17.8 | 6.222 | 4.1 | 131.5 | -146 | 2.7 | 0.24 |
| 4/15/2012 | 11:00:33 | 19.97 | 1.206 | 17.8 | 6.222 | 4.1 | 131.5 | -147 | 2.7 | 0.24 |
| 4/15/2012 | 11:05:33 | 19.96 | 1.207 | 17.8 | 6.222 | 4.1 | 131.5 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 11:10:33 | 19.93 | 1.207 | 17.8 | 6.223 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 11:15:33 | 19.92 | 1.207 | 17.8 | 6.227 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 11:20:33 | 19.91 | 1.207 | 17.81 | 6.23 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 11:25:33 | 19.9 | 1.206 | 17.8 | 6.229 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 11:30:32 | 19.94 | 1.206 | 17.8 | 6.226 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 11:35:32 | 19.99 | 1.206 | 17.8 | 6.228 | 4.1 | 131.5 | -148 | 2.7 | 0.24 |
| 4/15/2012 | 11:40:33 | 19.95 | 1.207 | 17.8 | 6.225 | 4.1 | 131.5 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 11:45:33 | 19.91 | 1.207 | 17.8 | 6.222 | 4.1 | 131.5 | -149 | 2.7 | 0.24 |
| 4/15/2012 | 11:50:32 | 19.89 | 1.206 | 17.8 | 6.224 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 11:55:32 | 19.89 | 1.206 | 17.8 | 6.226 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 12:00:33 | 19.89 | 1.206 | 17.8 | 6.224 | 4.1 | 131.5 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 12:05:33 | 19.92 | 1.206 | 17.8 | 6.222 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 12:10:33 | 19.9 | 1.206 | 17.8 | 6.224 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 12:15:33 | 19.89 | 1.206 | 17.8 | 6.221 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 12:20:32 | 19.95 | 1.205 | 17.8 | 6.218 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 12:25:33 | 19.95 | 1.206 | 17.8 | 6.22 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 12:30:33 | 19.95 | 1.205 | 17.8 | 6.218 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 12:35:33 | 19.95 | 1.205 | 17.8 | 6.22 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 12:40:33 | 19.95 | 1.205 | 17.8 | 6.219 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 12:45:33 | 19.93 | 1.206 | 17.8 | 6.22 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 12:50:32 | 19.97 | 1.204 | 17.8 | 6.215 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 12:55:33 | 19.96 | 1.205 | 17.8 | 6.212 | 4.1 | 131.5 | -149 | 2.6 | 0.24 |
| 4/15/2012 | 13:00:33 | 19.94 | 1.205 | 17.8 | 6.214 | 4.1 | 131.5 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 13:05:33 | 19.91 | 1.205 | 17.8 | 6.214 | 4.1 | 131.5 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 13:10:33 | 19.9 | 1.205 | 17.8 | 6.211 | 4.1 | 131.6 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 13:15:33 | 19.89 | 1.205 | 17.8 | 6.211 | 4.1 | 131.6 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 13:20:33 | 19.92 | 1.205 | 17.8 | 6.211 | 4.1 | 131.6 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 13:25:33 | 19.92 | 1.204 | 17.8 | 6.208 | 4.1 | 131.6 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 13:30:33 | 19.89 | 1.205 | 17.8 | 6.208 | 4.1 | 131.6 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 13:35:33 | 19.89 | 1.205 | 17.8 | 6.209 | 4.1 | 131.6 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 13:40:33 | 19.88 | 1.205 | 17.8 | 6.21 | 4.1 | 131.6 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 13:45:33 | 19.89 | 1.205 | 17.8 | 6.208 | 4.1 | 131.6 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 13:50:33 | 19.89 | 1.205 | 17.8 | 6.208 | 4.1 | 131.6 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 13:55:33 | 19.97 | 1.203 | 17.79 | 6.205 | 4.1 | 131.6 | -150 | 2.7 | 0.24 |
| 4/15/2012 | 14:00:32 | 19.95 | 1.204 | 17.79 | 6.203 | 4.1 | 131.6 | -151 | 2.7 | 0.24 |
| 4/15/2012 | 14:05:33 | 19.92 | 1.204 | 17.79 | 6.2 | 4.1 | 131.6 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 14:10:33 | 19.9 | 1.204 | 17.79 | 6.199 | 4.1 | 131.6 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 14:15:32 | 19.88 | 1.204 | 17.79 | 6.199 | 4.1 | 131.6 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 14:20:33 | 19.87 | 1.204 | 17.79 | 6.196 | 4.1 | 131.7 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 14:25:33 | 19.89 | 1.204 | 17.79 | 6.199 | 4.1 | 131.7 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 14:30:33 | 19.87 | 1.204 | 17.79 | 6.197 | 4.1 | 131.6 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 14:35:33 | 19.87 | 1.204 | 17.79 | 6.193 | 4.1 | 131.7 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 14:40:32 | 19.87 | 1.204 | 17.79 | 6.187 | 4.1 | 131.6 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 14:45:33 | 19.9 | 1.204 | 17.79 | 6.188 | 4.1 | 131.6 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 14:50:33 | 19.88 | 1.204 | 17.79 | 6.189 | 4.1 | 131.6 | -154 | 2.7 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 14:55:32 | 19.9 | 1.204 | 17.79 | 6.19 | 4.1 | 131.6 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 15:00:32 | 19.92 | 1.203 | 17.78 | 6.182 | 4.1 | 131.6 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 15:05:33 | 19.91 | 1.204 | 17.78 | 6.182 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 15:10:32 | 19.92 | 1.203 | 17.78 | 6.179 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 15:15:33 | 19.94 | 1.204 | 17.78 | 6.177 | 4.1 | 131.6 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 15:20:32 | 19.91 | 1.204 | 17.78 | 6.175 | 4.1 | 131.6 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 15:25:33 | 19.9 | 1.204 | 17.78 | 6.176 | 4.1 | 131.6 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 15:30:33 | 19.96 | 1.203 | 17.78 | 6.175 | 4.1 | 131.6 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 15:35:32 | 19.91 | 1.204 | 17.78 | 6.171 | 4.1 | 131.5 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 15:40:33 | 19.9 | 1.204 | 17.77 | 6.16 | 4.1 | 131.6 | -153 | 2.6 | 0.24 |
| 4/15/2012 | 15:45:33 | 19.88 | 1.204 | 17.78 | 6.165 | 4.1 | 131.6 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 15:50:33 | 19.93 | 1.204 | 17.78 | 6.162 | 4.1 | 131.6 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 15:55:33 | 19.9 | 1.205 | 17.78 | 6.161 | 4.1 | 131.6 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 16:00:33 | 19.91 | 1.204 | 17.78 | 6.161 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 16:05:33 | 19.88 | 1.204 | 17.77 | 6.152 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 16:10:32 | 19.89 | 1.204 | 17.77 | 6.148 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 16:15:33 | 19.96 | 1.204 | 17.77 | 6.151 | 4.1 | 131.5 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 16:20:33 | 19.92 | 1.204 | 17.77 | 6.152 | 4.1 | 131.5 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 16:25:32 | 19.89 | 1.204 | 17.77 | 6.153 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 16:30:32 | 19.88 | 1.204 | 17.77 | 6.153 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 16:35:33 | 19.89 | 1.204 | 17.77 | 6.153 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 16:40:33 | 19.88 | 1.204 | 17.77 | 6.151 | 4.1 | 131.5 | -155 | 2.6 | 0.24 |
| 4/15/2012 | 16:45:33 | 19.94 | 1.203 | 17.77 | 6.15 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 16:50:32 | 19.91 | 1.204 | 17.77 | 6.151 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 16:55:32 | 19.92 | 1.204 | 17.77 | 6.151 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 17:00:33 | 19.91 | 1.204 | 17.77 | 6.154 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 17:05:33 | 19.91 | 1.205 | 17.77 | 6.154 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 17:10:33 | 19.89 | 1.205 | 17.77 | 6.155 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 17:15:33 | 19.91 | 1.205 | 17.77 | 6.155 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 17:20:32 | 19.94 | 1.204 | 17.77 | 6.156 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 17:25:32 | 19.88 | 1.205 | 17.77 | 6.157 | 4.1 | 131.4 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 17:30:33 | 19.87 | 1.205 | 17.77 | 6.156 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 17:35:33 | 19.9 | 1.204 | 17.77 | 6.153 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 17:40:33 | 19.9 | 1.206 | 17.77 | 6.153 | 4.1 | 131.5 | -155 | 2.6 | 0.24 |
| 4/15/2012 | 17:45:32 | 19.89 | 1.205 | 17.77 | 6.157 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 17:50:33 | 19.89 | 1.205 | 17.77 | 6.157 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 17:55:33 | 19.87 | 1.205 | 17.77 | 6.155 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 18:00:32 | 19.87 | 1.204 | 17.77 | 6.158 | 4.1 | 131.5 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 18:05:32 | 19.88 | 1.205 | 17.77 | 6.158 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 18:10:32 | 19.92 | 1.204 | 17.77 | 6.155 | 4.1 | 131.5 | -155 | 2.6 | 0.24 |
| 4/15/2012 | 18:15:32 | 19.92 | 1.205 | 17.77 | 6.159 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 18:20:33 | 19.89 | 1.205 | 17.77 | 6.159 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 18:25:32 | 19.87 | 1.205 | 17.78 | 6.161 | 4.1 | 131.5 | -155 | 2.6 | 0.24 |
| 4/15/2012 | 18:30:33 | 19.88 | 1.205 | 17.77 | 6.158 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 18:35:33 | 19.91 | 1.204 | 17.78 | 6.162 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 18:40:32 | 19.91 | 1.205 | 17.78 | 6.165 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 18:45:33 | 19.91 | 1.205 | 17.78 | 6.164 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 18:50:33 | 19.89 | 1.205 | 17.78 | 6.166 | 4.1 | 131.5 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 18:55:33 | 19.89 | 1.205 | 17.78 | 6.167 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 19:00:33 | 19.87 | 1.205 | 17.78 | 6.163 | 4.1 | 131.5 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 19:05:33 | 19.88 | 1.205 | 17.78 | 6.165 | 4.1 | 131.5 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 19:10:32 | 19.9 | 1.205 | 17.78 | 6.166 | 4.1 | 131.5 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 19:15:32 | 19.89 | 1.205 | 17.78 | 6.167 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 19:20:33 | 19.86 | 1.205 | 17.78 | 6.166 | 4.1 | 131.5 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 19:25:33 | 19.87 | 1.205 | 17.78 | 6.166 | 4.1 | 131.5 | -157 | 2.7 | 0.24 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 19:30:32 | 20 | 1.203 | 17.78 | 6.166 | 4.1 | 131.5 | -153 | 2.6 | 0.24 |
| 4/15/2012 | 19:35:33 | 19.97 | 1.204 | 17.78 | 6.168 | 4.1 | 131.4 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 19:40:33 | 19.94 | 1.204 | 17.78 | 6.167 | 4.1 | 131.4 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 19:45:33 | 19.92 | 1.204 | 17.78 | 6.168 | 4.1 | 131.5 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 19:50:33 | 19.93 | 1.204 | 17.78 | 6.17 | 4.1 | 131.4 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 19:55:33 | 19.98 | 1.202 | 17.78 | 6.169 | 4.1 | 131.4 | -154 | 2.6 | 0.24 |
| 4/15/2012 | 20:00:32 | 19.95 | 1.204 | 17.78 | 6.167 | 4.1 | 131.4 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 20:05:32 | 19.96 | 1.204 | 17.78 | 6.167 | 4.1 | 131.4 | -154 | 2.6 | 0.24 |
| 4/15/2012 | 20:10:33 | 19.94 | 1.204 | 17.78 | 6.167 | 4.1 | 131.4 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 20:15:33 | 19.91 | 1.204 | 17.78 | 6.168 | 4.1 | 131.4 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 20:20:33 | 19.89 | 1.204 | 17.78 | 6.167 | 4.1 | 131.4 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 20:25:33 | 19.91 | 1.204 | 17.78 | 6.167 | 4.1 | 131.4 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 20:30:33 | 19.89 | 1.204 | 17.78 | 6.171 | 4.1 | 131.4 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 20:35:33 | 19.93 | 1.204 | 17.78 | 6.17 | 4.1 | 131.4 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 20:40:33 | 19.91 | 1.204 | 17.78 | 6.165 | 4.1 | 131.3 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 20:45:33 | 20 | 1.203 | 17.78 | 6.169 | 4.1 | 131.3 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 20:50:33 | 19.98 | 1.203 | 17.78 | 6.173 | 4.1 | 131.3 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 20:55:33 | 19.95 | 1.204 | 17.78 | 6.172 | 4.1 | 131.3 | -154 | 2.6 | 0.24 |
| 4/15/2012 | 21:00:32 | 19.95 | 1.204 | 17.78 | 6.172 | 4.1 | 131.3 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 21:05:33 | 19.94 | 1.204 | 17.78 | 6.173 | 4.1 | 131.3 | -154 | 2.6 | 0.24 |
| 4/15/2012 | 21:10:33 | 19.95 | 1.203 | 17.78 | 6.171 | 4.1 | 131.3 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 21:15:32 | 19.95 | 1.204 | 17.78 | 6.172 | 4.1 | 131.3 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 21:20:32 | 19.92 | 1.204 | 17.78 | 6.171 | 4.1 | 131.3 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 21:25:32 | 19.92 | 1.204 | 17.78 | 6.172 | 4.1 | 131.3 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 21:30:33 | 19.91 | 1.204 | 17.78 | 6.172 | 4.1 | 131.3 | -155 | 2.6 | 0.24 |
| 4/15/2012 | 21:35:32 | 19.92 | 1.204 | 17.78 | 6.173 | 4.1 | 131.3 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 21:40:32 | 19.89 | 1.204 | 17.78 | 6.173 | 4.1 | 131.3 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 21:45:33 | 19.88 | 1.204 | 17.78 | 6.171 | 4.1 | 131.3 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 21:50:33 | 19.87 | 1.204 | 17.78 | 6.168 | 4.1 | 131.3 | -157 | 2.7 | 0.24 |
| 4/15/2012 | 21:55:33 | 19.9 | 1.204 | 17.78 | 6.172 | 4.1 | 131.3 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 22:00:32 | 19.91 | 1.204 | 17.78 | 6.173 | 4.1 | 131.3 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 22:05:33 | 19.94 | 1.203 | 17.77 | 6.158 | 4.1 | 131.3 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 22:10:33 | 19.99 | 1.203 | 17.77 | 6.16 | 4.11 | 131.3 | -155 | 2.6 | 0.24 |
| 4/15/2012 | 22:15:33 | 19.96 | 1.203 | 17.78 | 6.161 | 4.11 | 131.3 | -154 | 2.7 | 0.24 |
| 4/15/2012 | 22:20:33 | 19.93 | 1.203 | 17.78 | 6.164 | 4.1 | 131.3 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 22:25:32 | 19.92 | 1.204 | 17.78 | 6.161 | 4.1 | 131.3 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 22:30:32 | 19.92 | 1.204 | 17.78 | 6.166 | 4.1 | 131.3 | -155 | 2.6 | 0.24 |
| 4/15/2012 | 22:35:32 | 19.89 | 1.204 | 17.78 | 6.165 | 4.1 | 131.3 | -155 | 2.6 | 0.24 |
| 4/15/2012 | 22:40:33 | 19.9 | 1.203 | 17.78 | 6.164 | 4.11 | 131.3 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 22:45:33 | 19.89 | 1.204 | 17.78 | 6.165 | 4.1 | 131.3 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 22:50:32 | 19.88 | 1.204 | 17.78 | 6.161 | 4.1 | 131.3 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 22:55:32 | 19.87 | 1.204 | 17.78 | 6.161 | 4.1 | 131.3 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 23:00:32 | 19.87 | 1.204 | 17.78 | 6.161 | 4.1 | 131.3 | -157 | 2.7 | 0.24 |
| 4/15/2012 | 23:05:33 | 19.88 | 1.204 | 17.78 | 6.162 | 4.1 | 131.3 | -157 | 2.7 | 0.24 |
| 4/15/2012 | 23:10:33 | 19.89 | 1.204 | 17.77 | 6.16 | 4.1 | 131.3 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 23:15:33 | 19.89 | 1.204 | 17.77 | 6.157 | 4.11 | 131.2 | -156 | 2.6 | 0.24 |
| 4/15/2012 | 23:20:32 | 19.89 | 1.204 | 17.77 | 6.156 | 4.11 | 131.2 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 23:25:33 | 19.88 | 1.204 | 17.77 | 6.157 | 4.1 | 131.2 | -156 | 2.7 | 0.24 |
| 4/15/2012 | 23:30:33 | 20.02 | 1.202 | 17.77 | 6.155 | 4.11 | 131.2 | -152 | 2.7 | 0.24 |
| 4/15/2012 | 23:35:32 | 19.99 | 1.203 | 17.77 | 6.152 | 4.11 | 131.2 | -153 | 2.7 | 0.24 |
| 4/15/2012 | 23:40:33 | 19.95 | 1.203 | 17.77 | 6.155 | 4.11 | 131.2 | -154 | 2.6 | 0.24 |
| 4/15/2012 | 23:45:33 | 19.93 | 1.203 | 17.77 | 6.151 | 4.11 | 131.2 | -155 | 2.7 | 0.24 |
| 4/15/2012 | 23:50:33 | 19.92 | 1.203 | 17.77 | 6.152 | 4.11 | 131.2 | -156 | 2.6 | 0.24 |
| 4/15/2012 | 23:55:33 | 19.91 | 1.203 | 17.77 | 6.152 | 4.11 | 131.2 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 0:00:33 | 19.93 | 1.203 | 17.77 | 6.151 | 4.11 | 131.2 | -157 | 2.7 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 0:05:33 | 19.91 | 1.203 | 17.77 | 6.148 | 4.11 | 131.2 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 0:10:32 | 19.89 | 1.204 | 17.77 | 6.149 | 4.11 | 131.2 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 0:15:32 | 19.88 | 1.203 | 17.77 | 6.149 | 4.11 | 131.2 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 0:20:32 | 19.88 | 1.203 | 17.77 | 6.146 | 4.11 | 131.2 | -157 | 2.7 | 0.24 |
| 4/16/2012 | 0:25:32 | 19.9 | 1.204 | 17.77 | 6.15 | 4.11 | 131.2 | -157 | 2.7 | 0.24 |
| 4/16/2012 | 0:30:33 | 19.89 | 1.203 | 17.77 | 6.147 | 4.11 | 131.2 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 0:35:33 | 19.97 | 1.203 | 17.77 | 6.147 | 4.11 | 131.2 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 0:40:32 | 19.98 | 1.203 | 17.77 | 6.148 | 4.11 | 131.1 | -155 | 2.7 | 0.24 |
| 4/16/2012 | 0:45:32 | 19.94 | 1.203 | 17.77 | 6.146 | 4.11 | 131.2 | -155 | 2.7 | 0.24 |
| 4/16/2012 | 0:50:32 | 19.9 | 1.203 | 17.77 | 6.143 | 4.11 | 131.1 | -155 | 2.6 | 0.24 |
| 4/16/2012 | 0:55:32 | 19.96 | 1.203 | 17.77 | 6.144 | 4.11 | 131.2 | -155 | 2.7 | 0.24 |
| 4/16/2012 | 1:00:33 | 19.93 | 1.203 | 17.77 | 6.136 | 4.11 | 131.2 | -154 | 2.7 | 0.24 |
| 4/16/2012 | 1:05:32 | 19.91 | 1.203 | 17.76 | 6.135 | 4.11 | 131.1 | -155 | 2.7 | 0.24 |
| 4/16/2012 | 1:10:32 | 19.92 | 1.203 | 17.76 | 6.136 | 4.11 | 131.1 | -154 | 2.6 | 0.24 |
| 4/16/2012 | 1:15:32 | 19.92 | 1.203 | 17.76 | 6.132 | 4.11 | 131.1 | -155 | 2.6 | 0.24 |
| 4/16/2012 | 1:20:33 | 19.9 | 1.203 | 17.76 | 6.134 | 4.11 | 131.1 | -155 | 2.7 | 0.24 |
| 4/16/2012 | 1:25:33 | 19.96 | 1.202 | 17.76 | 6.128 | 4.11 | 131.1 | -155 | 2.6 | 0.24 |
| 4/16/2012 | 1:30:32 | 19.93 | 1.203 | 17.76 | 6.128 | 4.11 | 131.1 | -155 | 2.7 | 0.24 |
| 4/16/2012 | 1:35:32 | 19.92 | 1.203 | 17.76 | 6.13 | 4.11 | 131.1 | -155 | 2.7 | 0.24 |
| 4/16/2012 | 1:40:32 | 19.9 | 1.203 | 17.76 | 6.132 | 4.11 | 131.1 | -155 | 2.6 | 0.24 |
| 4/16/2012 | 1:45:32 | 19.89 | 1.203 | 17.76 | 6.127 | 4.11 | 131.1 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 1:50:33 | 19.89 | 1.203 | 17.76 | 6.128 | 4.11 | 131.1 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 1:55:32 | 19.87 | 1.203 | 17.76 | 6.126 | 4.11 | 131.1 | -157 | 2.6 | 0.24 |
| 4/16/2012 | 2:00:33 | 19.87 | 1.202 | 17.76 | 6.125 | 4.11 | 131.1 | -157 | 2.7 | 0.24 |
| 4/16/2012 | 2:05:32 | 19.86 | 1.203 | 17.76 | 6.124 | 4.11 | 131.1 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 2:10:33 | 19.88 | 1.203 | 17.76 | 6.12 | 4.11 | 131.1 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 2:15:32 | 19.87 | 1.203 | 17.76 | 6.12 | 4.11 | 131.1 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 2:20:32 | 19.87 | 1.204 | 17.76 | 6.118 | 4.11 | 131.1 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 2:25:33 | 19.86 | 1.203 | 17.76 | 6.12 | 4.11 | 131.1 | -160 | 2.7 | 0.24 |
| 4/16/2012 | 2:30:33 | 19.87 | 1.203 | 17.76 | 6.117 | 4.11 | 131.1 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 2:35:32 | 19.94 | 1.203 | 17.76 | 6.117 | 4.11 | 131 | -157 | 2.6 | 0.24 |
| 4/16/2012 | 2:40:32 | 19.92 | 1.203 | 17.76 | 6.115 | 4.11 | 131 | -157 | 2.7 | 0.24 |
| 4/16/2012 | 2:45:33 | 19.9 | 1.203 | 17.76 | 6.114 | 4.11 | 131 | -157 | 2.7 | 0.24 |
| 4/16/2012 | 2:50:33 | 19.89 | 1.203 | 17.75 | 6.111 | 4.11 | 131 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 2:55:33 | 19.96 | 1.202 | 17.75 | 6.108 | 4.11 | 131 | -158 | 2.6 | 0.24 |
| 4/16/2012 | 3:00:32 | 19.97 | 1.203 | 17.75 | 6.108 | 4.11 | 131 | -157 | 2.6 | 0.24 |
| 4/16/2012 | 3:05:33 | 19.97 | 1.203 | 17.75 | 6.106 | 4.11 | 131 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 3:10:32 | 19.94 | 1.203 | 17.75 | 6.107 | 4.11 | 131 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 3:15:32 | 19.95 | 1.202 | 17.75 | 6.104 | 4.11 | 131 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 3:20:33 | 19.96 | 1.202 | 17.75 | 6.103 | 4.11 | 131 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 3:25:33 | 19.99 | 1.202 | 17.75 | 6.101 | 4.11 | 131 | -155 | 2.6 | 0.24 |
| 4/16/2012 | 3:30:33 | 19.93 | 1.203 | 17.75 | 6.1 | 4.11 | 131 | -155 | 2.6 | 0.24 |
| 4/16/2012 | 3:35:33 | 19.95 | 1.203 | 17.75 | 6.099 | 4.11 | 131 | -155 | 2.7 | 0.24 |
| 4/16/2012 | 3:40:33 | 19.93 | 1.203 | 17.75 | 6.097 | 4.11 | 131 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 3:45:33 | 19.92 | 1.203 | 17.75 | 6.095 | 4.11 | 131 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 3:50:33 | 19.94 | 1.203 | 17.75 | 6.094 | 4.11 | 131 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 3:55:32 | 19.94 | 1.202 | 17.75 | 6.093 | 4.11 | 131 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 4:00:33 | 19.92 | 1.203 | 17.75 | 6.091 | 4.11 | 131 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 4:05:33 | 19.93 | 1.203 | 17.75 | 6.093 | 4.11 | 131 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 4:10:32 | 19.91 | 1.203 | 17.75 | 6.096 | 4.11 | 131 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 4:15:32 | 19.9 | 1.204 | 17.75 | 6.098 | 4.11 | 130.9 | -157 | 2.7 | 0.24 |
| 4/16/2012 | 4:20:32 | 19.88 | 1.203 | 17.75 | 6.097 | 4.11 | 130.9 | -157 | 2.7 | 0.24 |
| 4/16/2012 | 4:25:33 | 19.95 | 1.202 | 17.75 | 6.097 | 4.11 | 131 | -157 | 2.7 | 0.24 |
| 4/16/2012 | 4:30:33 | 19.94 | 1.203 | 17.75 | 6.095 | 4.11 | 131 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 4:35:33 | 19.91 | 1.204 | 17.75 | 6.095 | 4.11 | 131 | -156 | 2.6 | 0.24 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 4:40:33 | 19.91 | 1.204 | 17.75 | 6.096 | 4.11 | 131 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 4:45:33 | 19.91 | 1.203 | 17.75 | 6.095 | 4.11 | 131 | -157 | 2.7 | 0.24 |
| 4/16/2012 | 4:50:32 | 19.89 | 1.203 | 17.75 | 6.097 | 4.11 | 131 | -157 | 2.7 | 0.24 |
| 4/16/2012 | 4:55:33 | 19.88 | 1.203 | 17.75 | 6.095 | 4.11 | 131 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 5:00:33 | 19.89 | 1.203 | 17.75 | 6.097 | 4.11 | 131 | -158 | 2.6 | 0.24 |
| 4/16/2012 | 5:05:32 | 19.92 | 1.204 | 17.75 | 6.097 | 4.11 | 131 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 5:10:32 | 19.94 | 1.204 | 17.75 | 6.099 | 4.11 | 130.9 | -157 | 2.6 | 0.24 |
| 4/16/2012 | 5:15:33 | 19.92 | 1.204 | 17.75 | 6.102 | 4.11 | 131 | -157 | 2.6 | 0.24 |
| 4/16/2012 | 5:20:33 | 19.91 | 1.204 | 17.75 | 6.101 | 4.11 | 131 | -157 | 2.6 | 0.24 |
| 4/16/2012 | 5:25:33 | 19.94 | 1.203 | 17.75 | 6.098 | 4.11 | 131 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 5:30:33 | 19.93 | 1.204 | 17.75 | 6.1 | 4.11 | 130.9 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 5:35:33 | 19.95 | 1.204 | 17.75 | 6.104 | 4.11 | 130.9 | -155 | 2.6 | 0.24 |
| 4/16/2012 | 5:40:32 | 19.94 | 1.204 | 17.75 | 6.106 | 4.11 | 130.9 | -155 | 2.6 | 0.24 |
| 4/16/2012 | 5:45:32 | 19.91 | 1.204 | 17.75 | 6.107 | 4.11 | 130.9 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 5:50:33 | 19.9 | 1.203 | 17.75 | 6.109 | 4.11 | 130.9 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 5:55:32 | 19.9 | 1.204 | 17.75 | 6.109 | 4.11 | 130.9 | -157 | 2.6 | 0.24 |
| 4/16/2012 | 6:00:32 | 19.9 | 1.204 | 17.75 | 6.11 | 4.11 | 130.9 | -158 | 2.6 | 0.24 |
| 4/16/2012 | 6:05:33 | 19.9 | 1.203 | 17.75 | 6.112 | 4.11 | 131 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 6:10:32 | 19.96 | 1.203 | 17.75 | 6.113 | 4.11 | 130.9 | -158 | 2.6 | 0.24 |
| 4/16/2012 | 6:15:33 | 19.96 | 1.203 | 17.76 | 6.114 | 4.11 | 130.9 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 6:20:33 | 19.96 | 1.204 | 17.76 | 6.118 | 4.11 | 130.9 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 6:25:32 | 19.94 | 1.203 | 17.76 | 6.119 | 4.11 | 130.9 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 6:30:33 | 19.98 | 1.203 | 17.76 | 6.121 | 4.11 | 130.9 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 6:35:33 | 19.95 | 1.203 | 17.76 | 6.123 | 4.11 | 130.9 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 6:40:33 | 19.95 | 1.203 | 17.76 | 6.121 | 4.11 | 130.9 | -156 | 2.6 | 0.24 |
| 4/16/2012 | 6:45:33 | 19.94 | 1.203 | 17.76 | 6.126 | 4.11 | 130.9 | -157 | 2.7 | 0.24 |
| 4/16/2012 | 6:50:33 | 19.94 | 1.203 | 17.76 | 6.126 | 4.11 | 130.9 | -157 | 2.6 | 0.24 |
| 4/16/2012 | 6:55:33 | 19.91 | 1.203 | 17.76 | 6.129 | 4.11 | 130.9 | -158 | 2.6 | 0.24 |
| 4/16/2012 | 7:00:33 | 19.91 | 1.203 | 17.76 | 6.126 | 4.11 | 130.9 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 7:05:33 | 19.91 | 1.203 | 17.76 | 6.131 | 4.11 | 130.9 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 7:10:33 | 19.92 | 1.203 | 17.76 | 6.131 | 4.11 | 130.9 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 7:15:32 | 19.9 | 1.203 | 17.76 | 6.135 | 4.11 | 130.9 | -157 | 2.6 | 0.24 |
| 4/16/2012 | 7:20:33 | 19.9 | 1.203 | 17.77 | 6.139 | 4.11 | 130.9 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 7:25:33 | 19.89 | 1.203 | 17.77 | 6.137 | 4.11 | 130.9 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 7:30:33 | 19.88 | 1.203 | 17.77 | 6.139 | 4.11 | 130.9 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 7:35:33 | 19.9 | 1.203 | 17.77 | 6.14 | 4.11 | 130.9 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 7:40:32 | 19.9 | 1.203 | 17.77 | 6.138 | 4.11 | 130.9 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 7:45:32 | 19.97 | 1.203 | 17.77 | 6.141 | 4.11 | 130.9 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 7:50:32 | 20.02 | 1.202 | 17.77 | 6.142 | 4.11 | 130.8 | -156 | 2.7 | 0.24 |
| 4/16/2012 | 7:55:32 | 19.97 | 1.203 | 17.77 | 6.141 | 4.11 | 130.8 | -157 | 2.6 | 0.24 |
| 4/16/2012 | 8:00:33 | 19.95 | 1.202 | 17.77 | 6.144 | 4.11 | 130.9 | -157 | 2.6 | 0.24 |
| 4/16/2012 | 8:05:33 | 19.92 | 1.203 | 17.77 | 6.146 | 4.11 | 130.9 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 8:10:33 | 19.92 | 1.203 | 17.77 | 6.146 | 4.11 | 130.9 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 8:15:33 | 19.93 | 1.203 | 17.77 | 6.146 | 4.11 | 130.9 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 8:20:33 | 19.91 | 1.203 | 17.77 | 6.147 | 4.11 | 130.9 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 8:25:33 | 19.91 | 1.203 | 17.77 | 6.149 | 4.11 | 130.9 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 8:30:33 | 19.9 | 1.202 | 17.76 | 6.133 | 4.11 | 130.9 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 8:35:32 | 19.94 | 1.202 | 17.76 | 6.134 | 4.11 | 130.9 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 8:40:33 | 19.91 | 1.202 | 17.76 | 6.133 | 4.11 | 130.9 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 8:45:33 | 19.91 | 1.202 | 17.77 | 6.138 | 4.11 | 130.8 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 8:50:32 | 19.93 | 1.202 | 17.77 | 6.137 | 4.11 | 130.8 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 8:55:32 | 19.91 | 1.202 | 17.77 | 6.141 | 4.11 | 130.8 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 9:00:33 | 19.92 | 1.202 | 17.77 | 6.142 | 4.11 | 130.8 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 9:05:33 | 19.9 | 1.202 | 17.77 | 6.14 | 4.11 | 130.9 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 9:10:32 | 19.96 | 1.202 | 17.77 | 6.14 | 4.11 | 130.8 | -159 | 2.7 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 9:15:32 | 19.93 | 1.203 | 17.77 | 6.141 | 4.11 | 130.8 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 9:20:32 | 19.92 | 1.202 | 17.77 | 6.143 | 4.11 | 130.8 | -158 | 2.6 | 0.24 |
| 4/16/2012 | 9:25:32 | 19.9 | 1.202 | 17.77 | 6.146 | 4.11 | 130.8 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 9:30:32 | 19.89 | 1.203 | 17.77 | 6.146 | 4.11 | 130.8 | -160 | 2.7 | 0.24 |
| 4/16/2012 | 9:35:32 | 19.92 | 1.202 | 17.77 | 6.148 | 4.11 | 130.8 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 9:40:33 | 19.95 | 1.202 | 17.77 | 6.148 | 4.11 | 130.8 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 9:45:33 | 19.96 | 1.202 | 17.77 | 6.148 | 4.11 | 130.7 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 9:50:33 | 19.94 | 1.202 | 17.77 | 6.148 | 4.11 | 130.7 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 9:55:33 | 19.92 | 1.203 | 17.77 | 6.148 | 4.11 | 130.7 | -160 | 2.7 | 0.24 |
| 4/16/2012 | 10:00:33 | 19.93 | 1.202 | 17.77 | 6.151 | 4.11 | 130.8 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 10:05:33 | 19.91 | 1.202 | 17.77 | 6.153 | 4.11 | 130.7 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 10:10:33 | 19.91 | 1.202 | 17.77 | 6.154 | 4.11 | 130.8 | -160 | 2.7 | 0.24 |
| 4/16/2012 | 10:15:32 | 19.89 | 1.202 | 17.77 | 6.157 | 4.11 | 130.7 | -160 | 2.7 | 0.24 |
| 4/16/2012 | 10:20:32 | 19.96 | 1.201 | 17.77 | 6.152 | 4.11 | 130.8 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 10:25:32 | 19.96 | 1.202 | 17.77 | 6.156 | 4.12 | 130.7 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 10:30:33 | 19.94 | 1.202 | 17.77 | 6.155 | 4.11 | 130.7 | -160 | 2.7 | 0.24 |
| 4/16/2012 | 10:35:33 | 19.92 | 1.202 | 17.77 | 6.157 | 4.12 | 130.7 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 10:40:33 | 19.9 | 1.202 | 17.77 | 6.16 | 4.11 | 130.7 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 10:45:33 | 19.95 | 1.201 | 17.78 | 6.16 | 4.11 | 130.7 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 10:50:33 | 19.92 | 1.202 | 17.77 | 6.16 | 4.12 | 130.7 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 10:55:32 | 19.92 | 1.202 | 17.77 | 6.158 | 4.12 | 130.7 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 11:00:32 | 19.94 | 1.201 | 17.77 | 6.157 | 4.12 | 130.7 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 11:05:33 | 19.93 | 1.201 | 17.77 | 6.156 | 4.12 | 130.7 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 11:10:32 | 19.92 | 1.201 | 17.77 | 6.155 | 4.12 | 130.7 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 11:15:33 | 19.92 | 1.201 | 17.77 | 6.157 | 4.12 | 130.7 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 11:20:32 | 19.92 | 1.201 | 17.77 | 6.157 | 4.12 | 130.7 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 11:25:32 | 19.91 | 1.201 | 17.77 | 6.153 | 4.12 | 130.7 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 11:30:32 | 19.9 | 1.201 | 17.77 | 6.152 | 4.12 | 130.7 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 11:35:32 | 19.93 | 1.201 | 17.77 | 6.15 | 4.12 | 130.7 | -160 | 2.7 | 0.24 |
| 4/16/2012 | 11:40:33 | 19.98 | 1.2 | 17.77 | 6.149 | 4.12 | 130.7 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 11:45:33 | 19.95 | 1.201 | 17.77 | 6.148 | 4.12 | 130.6 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 11:50:33 | 19.93 | 1.2 | 17.77 | 6.146 | 4.12 | 130.7 | -159 | 2.7 | 0.24 |
| 4/16/2012 | 11:55:33 | 19.92 | 1.2 | 17.77 | 6.145 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 12:00:33 | 19.91 | 1.2 | 17.77 | 6.144 | 4.12 | 130.7 | -161 | 2.7 | 0.24 |
| 4/16/2012 | 12:05:33 | 19.9 | 1.201 | 17.77 | 6.142 | 4.12 | 130.7 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 12:10:32 | 19.9 | 1.201 | 17.77 | 6.139 | 4.12 | 130.7 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 12:15:32 | 20.02 | 1.198 | 17.77 | 6.14 | 4.12 | 130.7 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 12:20:32 | 20.01 | 1.199 | 17.77 | 6.14 | 4.12 | 130.6 | -158 | 2.7 | 0.24 |
| 4/16/2012 | 12:25:33 | 19.97 | 1.2 | 17.77 | 6.137 | 4.12 | 130.6 | -158 | 2.6 | 0.24 |
| 4/16/2012 | 12:30:32 | 19.95 | 1.199 | 17.77 | 6.139 | 4.12 | 130.6 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 12:35:33 | 19.96 | 1.2 | 17.76 | 6.135 | 4.12 | 130.6 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 12:40:32 | 19.94 | 1.2 | 17.76 | 6.135 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 12:45:33 | 20 | 1.199 | 17.76 | 6.13 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 12:50:33 | 19.96 | 1.2 | 17.76 | 6.129 | 4.12 | 130.6 | -159 | 2.6 | 0.24 |
| 4/16/2012 | 12:55:33 | 19.93 | 1.2 | 17.76 | 6.129 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 13:00:32 | 19.92 | 1.2 | 17.76 | 6.124 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 13:05:33 | 19.96 | 1.2 | 17.76 | 6.124 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 13:10:32 | 19.94 | 1.2 | 17.76 | 6.124 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 13:15:32 | 19.95 | 1.199 | 17.76 | 6.125 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 13:20:32 | 19.93 | 1.2 | 17.76 | 6.124 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 13:25:32 | 19.91 | 1.2 | 17.76 | 6.121 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 13:30:32 | 19.91 | 1.2 | 17.76 | 6.121 | 4.12 | 130.6 | -161 | 2.7 | 0.24 |
| 4/16/2012 | 13:35:33 | 19.9 | 1.2 | 17.76 | 6.12 | 4.12 | 130.6 | -162 | 2.7 | 0.24 |
| 4/16/2012 | 13:40:33 | 19.9 | 1.2 | 17.76 | 6.118 | 4.12 | 130.6 | -162 | 2.7 | 0.24 |
| 4/16/2012 | 13:45:33 | 19.89 | 1.2 | 17.76 | 6.114 | 4.12 | 130.6 | -162 | 2.7 | 0.24 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 13:50:33 | 19.92 | 1.2 | 17.76 | 6.115 | 4.12 | 130.6 | -162 | 2.7 | 0.24 |
| 4/16/2012 | 13:55:33 | 19.95 | 1.199 | 17.75 | 6.1 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 14:00:33 | 19.93 | 1.199 | 17.75 | 6.1 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 14:05:32 | 19.92 | 1.2 | 17.75 | 6.099 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 14:10:33 | 19.92 | 1.2 | 17.75 | 6.1 | 4.12 | 130.6 | -161 | 2.7 | 0.24 |
| 4/16/2012 | 14:15:33 | 19.96 | 1.199 | 17.75 | 6.099 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 14:20:33 | 19.95 | 1.2 | 17.75 | 6.097 | 4.12 | 130.6 | -160 | 2.7 | 0.24 |
| 4/16/2012 | 14:25:33 | 19.93 | 1.2 | 17.75 | 6.1 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 14:30:32 | 20.01 | 1.199 | 17.75 | 6.093 | 4.12 | 130.6 | -160 | 2.7 | 0.24 |
| 4/16/2012 | 14:35:33 | 19.97 | 1.2 | 17.75 | 6.093 | 4.12 | 130.6 | -160 | 2.7 | 0.24 |
| 4/16/2012 | 14:40:33 | 19.93 | 1.2 | 17.74 | 6.09 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 14:45:33 | 19.91 | 1.2 | 17.75 | 6.093 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 14:50:33 | 19.92 | 1.2 | 17.75 | 6.095 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 14:55:33 | 19.97 | 1.199 | 17.75 | 6.092 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 15:00:33 | 19.93 | 1.201 | 17.75 | 6.09 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 15:05:33 | 19.93 | 1.201 | 17.74 | 6.089 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 15:10:32 | 19.9 | 1.201 | 17.75 | 6.095 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 15:15:32 | 19.92 | 1.2 | 17.75 | 6.091 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 15:20:33 | 19.91 | 1.201 | 17.75 | 6.091 | 4.12 | 130.6 | -162 | 2.7 | 0.24 |
| 4/16/2012 | 15:25:32 | 19.9 | 1.201 | 17.75 | 6.09 | 4.12 | 130.6 | -162 | 2.7 | 0.24 |
| 4/16/2012 | 15:30:33 | 19.91 | 1.201 | 17.74 | 6.087 | 4.12 | 130.6 | -162 | 2.7 | 0.24 |
| 4/16/2012 | 15:35:33 | 19.91 | 1.201 | 17.74 | 6.089 | 4.12 | 130.6 | -162 | 2.7 | 0.24 |
| 4/16/2012 | 15:40:32 | 19.91 | 1.201 | 17.74 | 6.085 | 4.12 | 130.6 | -163 | 2.7 | 0.24 |
| 4/16/2012 | 15:45:32 | 19.89 | 1.201 | 17.74 | 6.084 | 4.12 | 130.6 | -163 | 2.7 | 0.24 |
| 4/16/2012 | 15:50:33 | 19.88 | 1.201 | 17.74 | 6.086 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 15:55:32 | 19.96 | 1.201 | 17.74 | 6.084 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 16:00:33 | 19.94 | 1.201 | 17.74 | 6.082 | 4.12 | 130.6 | -162 | 2.7 | 0.24 |
| 4/16/2012 | 16:05:32 | 20.01 | 1.2 | 17.74 | 6.081 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 16:10:32 | 19.99 | 1.201 | 17.74 | 6.081 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 16:15:32 | 19.95 | 1.201 | 17.74 | 6.078 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 16:20:32 | 19.95 | 1.202 | 17.74 | 6.074 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 16:25:32 | 19.96 | 1.201 | 17.74 | 6.076 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 16:30:32 | 20.01 | 1.201 | 17.74 | 6.076 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 16:35:33 | 19.97 | 1.202 | 17.74 | 6.072 | 4.12 | 130.6 | -162 | 2.7 | 0.24 |
| 4/16/2012 | 16:40:33 | 19.97 | 1.202 | 17.74 | 6.074 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 16:45:33 | 20.01 | 1.201 | 17.74 | 6.073 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 16:50:33 | 19.98 | 1.202 | 17.74 | 6.073 | 4.12 | 130.6 | -160 | 2.7 | 0.24 |
| 4/16/2012 | 16:55:33 | 19.96 | 1.202 | 17.74 | 6.073 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 17:00:33 | 19.95 | 1.202 | 17.74 | 6.073 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 17:05:33 | 20 | 1.201 | 17.74 | 6.076 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 17:10:33 | 20.04 | 1.201 | 17.74 | 6.075 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 17:15:33 | 19.99 | 1.202 | 17.74 | 6.076 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 17:20:33 | 19.96 | 1.202 | 17.74 | 6.078 | 4.12 | 130.7 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 17:25:33 | 19.95 | 1.203 | 17.74 | 6.078 | 4.12 | 130.7 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 17:30:33 | 20.01 | 1.202 | 17.74 | 6.081 | 4.12 | 130.7 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 17:35:33 | 20.01 | 1.202 | 17.74 | 6.085 | 4.12 | 130.7 | -161 | 2.7 | 0.24 |
| 4/16/2012 | 17:40:33 | 19.96 | 1.203 | 17.74 | 6.083 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 17:45:33 | 19.94 | 1.203 | 17.74 | 6.084 | 4.12 | 130.7 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 17:50:33 | 19.94 | 1.203 | 17.74 | 6.083 | 4.12 | 130.7 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 17:55:33 | 19.92 | 1.203 | 17.74 | 6.084 | 4.12 | 130.7 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 18:00:32 | 19.92 | 1.203 | 17.74 | 6.083 | 4.12 | 130.7 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 18:05:33 | 19.92 | 1.203 | 17.74 | 6.082 | 4.12 | 130.7 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 18:10:33 | 20 | 1.202 | 17.74 | 6.082 | 4.12 | 130.7 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 18:15:33 | 19.99 | 1.203 | 17.74 | 6.082 | 4.12 | 130.7 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 18:20:33 | 19.97 | 1.203 | 17.74 | 6.085 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 18:25:32 | 19.95 | 1.202 | 17.74 | 6.085 | 4.12 | 130.7 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 18:30:33 | 19.93 | 1.203 | 17.74 | 6.084 | 4.12 | 130.7 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 18:35:33 | 19.95 | 1.203 | 17.74 | 6.079 | 4.12 | 130.7 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 18:40:33 | 19.93 | 1.203 | 17.74 | 6.077 | 4.12 | 130.7 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 18:45:33 | 19.95 | 1.203 | 17.74 | 6.078 | 4.12 | 130.7 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 18:50:33 | 19.94 | 1.203 | 17.74 | 6.078 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 18:55:32 | 19.97 | 1.203 | 17.73 | 6.065 | 4.12 | 130.6 | -163 | 2.7 | 0.24 |
| 4/16/2012 | 19:00:32 | 19.94 | 1.203 | 17.73 | 6.066 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 19:05:32 | 19.92 | 1.203 | 17.74 | 6.07 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 19:10:32 | 19.95 | 1.203 | 17.74 | 6.069 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 19:15:32 | 19.95 | 1.204 | 17.74 | 6.072 | 4.12 | 130.7 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 19:20:33 | 19.94 | 1.203 | 17.74 | 6.071 | 4.12 | 130.7 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 19:25:32 | 19.92 | 1.203 | 17.74 | 6.071 | 4.12 | 130.7 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 19:30:32 | 19.97 | 1.203 | 17.74 | 6.075 | 4.12 | 130.7 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 19:35:33 | 20.03 | 1.202 | 17.74 | 6.077 | 4.12 | 130.7 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 19:40:33 | 20.01 | 1.203 | 17.74 | 6.076 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 19:45:33 | 19.98 | 1.204 | 17.74 | 6.077 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 19:50:33 | 20.02 | 1.203 | 17.74 | 6.079 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 19:55:33 | 19.99 | 1.203 | 17.74 | 6.083 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 20:00:33 | 19.97 | 1.204 | 17.74 | 6.083 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 20:05:32 | 19.94 | 1.204 | 17.74 | 6.085 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 20:10:32 | 20.01 | 1.203 | 17.74 | 6.084 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 20:15:32 | 19.99 | 1.204 | 17.74 | 6.085 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 20:20:32 | 19.95 | 1.204 | 17.74 | 6.087 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 20:25:32 | 19.99 | 1.203 | 17.74 | 6.088 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 20:30:32 | 19.94 | 1.204 | 17.74 | 6.087 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 20:35:32 | 19.95 | 1.204 | 17.74 | 6.085 | 4.12 | 130.7 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 20:40:32 | 19.93 | 1.204 | 17.74 | 6.085 | 4.12 | 130.7 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 20:45:33 | 19.95 | 1.204 | 17.74 | 6.087 | 4.12 | 130.7 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 20:50:32 | 19.94 | 1.204 | 17.74 | 6.087 | 4.12 | 130.7 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 20:55:32 | 19.94 | 1.205 | 17.75 | 6.091 | 4.12 | 130.7 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 21:00:33 | 19.97 | 1.204 | 17.74 | 6.088 | 4.12 | 130.7 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 21:05:33 | 19.95 | 1.205 | 17.74 | 6.089 | 4.12 | 130.7 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 21:10:32 | 19.93 | 1.205 | 17.74 | 6.089 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 21:15:32 | 19.93 | 1.204 | 17.74 | 6.089 | 4.12 | 130.7 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 21:20:32 | 20.03 | 1.203 | 17.75 | 6.092 | 4.12 | 130.7 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 21:25:33 | 20.02 | 1.204 | 17.75 | 6.092 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 21:30:33 | 20.02 | 1.204 | 17.75 | 6.093 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 21:35:32 | 20.05 | 1.203 | 17.75 | 6.093 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 21:40:33 | 20.05 | 1.202 | 17.75 | 6.091 | 4.12 | 130.6 | -160 | 2.6 | 0.24 |
| 4/16/2012 | 21:45:33 | 20.02 | 1.203 | 17.75 | 6.093 | 4.12 | 130.6 | -161 | 2.6 | 0.24 |
| 4/16/2012 | 21:50:33 | 20 | 1.203 | 17.75 | 6.094 | 4.12 | 130.6 | -162 | 2.6 | 0.24 |
| 4/16/2012 | 21:55:33 | 19.98 | 1.204 | 17.75 | 6.091 | 4.12 | 130.6 | -163 | 2.6 | 0.24 |
| 4/16/2012 | 22:00:33 | 19.99 | 1.204 | 17.75 | 6.093 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 22:05:32 | 19.94 | 1.204 | 17.75 | 6.096 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 22:10:32 | 19.93 | 1.204 | 17.75 | 6.097 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 22:15:33 | 19.94 | 1.204 | 17.75 | 6.096 | 4.12 | 130.6 | -165 | 2.6 | 0.24 |
| 4/16/2012 | 22:20:33 | 20.01 | 1.202 | 17.75 | 6.095 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 22:25:32 | 19.98 | 1.203 | 17.75 | 6.097 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 22:30:32 | 19.99 | 1.203 | 17.75 | 6.099 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 22:35:33 | 19.97 | 1.204 | 17.75 | 6.095 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 22:40:33 | 19.96 | 1.204 | 17.75 | 6.094 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 22:45:33 | 19.96 | 1.204 | 17.75 | 6.091 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 22:50:33 | 19.95 | 1.203 | 17.75 | 6.092 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 22:55:32 | 19.95 | 1.203 | 17.74 | 6.089 | 4.12 | 130.6 | -165 | 2.6 | 0.24 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 23:00:33 | 19.92 | 1.204 | 17.75 | 6.09 | 4.12 | 130.6 | -165 | 2.6 | 0.24 |
| 4/16/2012 | 23:05:33 | 19.95 | 1.203 | 17.75 | 6.091 | 4.12 | 130.6 | -165 | 2.6 | 0.24 |
| 4/16/2012 | 23:10:32 | 19.94 | 1.204 | 17.74 | 6.089 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 23:15:33 | 19.94 | 1.204 | 17.74 | 6.085 | 4.12 | 130.6 | -164 | 2.7 | 0.24 |
| 4/16/2012 | 23:20:32 | 19.91 | 1.204 | 17.74 | 6.085 | 4.12 | 130.6 | -164 | 2.7 | 0.24 |
| 4/16/2012 | 23:25:33 | 19.91 | 1.203 | 17.74 | 6.087 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/16/2012 | 23:30:33 | 19.91 | 1.204 | 17.74 | 6.081 | 4.12 | 130.6 | -165 | 2.6 | 0.24 |
| 4/16/2012 | 23:35:33 | 19.92 | 1.204 | 17.74 | 6.083 | 4.12 | 130.6 | -165 | 2.6 | 0.24 |
| 4/16/2012 | 23:40:32 | 19.93 | 1.203 | 17.74 | 6.079 | 4.12 | 130.6 | -166 | 2.6 | 0.24 |
| 4/16/2012 | 23:45:32 | 19.93 | 1.203 | 17.74 | 6.077 | 4.12 | 130.6 | -166 | 2.6 | 0.24 |
| 4/16/2012 | 23:50:33 | 19.93 | 1.204 | 17.74 | 6.077 | 4.12 | 130.6 | -166 | 2.6 | 0.24 |
| 4/16/2012 | 23:55:33 | 19.93 | 1.204 | 17.74 | 6.077 | 4.12 | 130.6 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 0:00:32 | 19.93 | 1.204 | 17.74 | 6.074 | 4.12 | 130.6 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 0:05:32 | 19.93 | 1.204 | 17.74 | 6.075 | 4.12 | 130.6 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 0:10:32 | 19.95 | 1.203 | 17.74 | 6.075 | 4.12 | 130.5 | -165 | 2.7 | 0.24 |
| 4/17/2012 | 0:15:33 | 19.94 | 1.203 | 17.74 | 6.072 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 0:20:33 | 19.94 | 1.203 | 17.74 | 6.072 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 0:25:32 | 19.95 | 1.203 | 17.74 | 6.076 | 4.12 | 130.6 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 0:30:33 | 19.95 | 1.203 | 17.74 | 6.074 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 0:35:33 | 19.93 | 1.204 | 17.74 | 6.075 | 4.12 | 130.5 | -164 | 2.7 | 0.24 |
| 4/17/2012 | 0:40:33 | 19.96 | 1.203 | 17.74 | 6.069 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 0:45:33 | 20.01 | 1.202 | 17.74 | 6.068 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 0:50:33 | 19.98 | 1.203 | 17.73 | 6.067 | 4.12 | 130.5 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 0:55:32 | 19.96 | 1.202 | 17.73 | 6.063 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 1:00:32 | 19.98 | 1.203 | 17.73 | 6.057 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 1:05:32 | 19.97 | 1.203 | 17.73 | 6.056 | 4.12 | 130.5 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 1:10:32 | 19.97 | 1.202 | 17.73 | 6.055 | 4.12 | 130.4 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 1:15:33 | 19.96 | 1.203 | 17.73 | 6.054 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 1:20:33 | 20.01 | 1.202 | 17.73 | 6.055 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 1:25:32 | 20.03 | 1.202 | 17.73 | 6.052 | 4.12 | 130.5 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 1:30:33 | 19.99 | 1.203 | 17.73 | 6.053 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 1:35:32 | 19.99 | 1.203 | 17.73 | 6.05 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 1:40:33 | 19.95 | 1.203 | 17.73 | 6.049 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 1:45:33 | 19.94 | 1.204 | 17.73 | 6.046 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 1:50:33 | 20 | 1.202 | 17.73 | 6.046 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 1:55:32 | 20 | 1.203 | 17.73 | 6.047 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 2:00:33 | 20.05 | 1.201 | 17.73 | 6.049 | 4.12 | 130.5 | -161 | 2.6 | 0.24 |
| 4/17/2012 | 2:05:33 | 20.03 | 1.202 | 17.73 | 6.046 | 4.12 | 130.5 | -161 | 2.6 | 0.24 |
| 4/17/2012 | 2:10:32 | 20.01 | 1.203 | 17.73 | 6.045 | 4.12 | 130.5 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 2:15:33 | 19.99 | 1.203 | 17.73 | 6.044 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 2:20:33 | 19.98 | 1.203 | 17.73 | 6.047 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 2:25:33 | 20.01 | 1.203 | 17.73 | 6.046 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 2:30:32 | 19.96 | 1.203 | 17.73 | 6.044 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 2:35:32 | 19.95 | 1.203 | 17.73 | 6.045 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 2:40:33 | 19.96 | 1.204 | 17.73 | 6.045 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 2:45:33 | 19.99 | 1.203 | 17.72 | 6.041 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 2:50:32 | 19.96 | 1.204 | 17.72 | 6.042 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 2:55:32 | 19.95 | 1.204 | 17.72 | 6.041 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 3:00:33 | 19.95 | 1.203 | 17.72 | 6.042 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 3:05:32 | 19.96 | 1.203 | 17.72 | 6.043 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 3:10:33 | 19.95 | 1.204 | 17.72 | 6.041 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 3:15:33 | 19.99 | 1.202 | 17.72 | 6.041 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 3:20:33 | 20 | 1.203 | 17.72 | 6.041 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 3:25:32 | 19.98 | 1.203 | 17.72 | 6.043 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 3:30:33 | 20 | 1.203 | 17.73 | 6.044 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 3:35:33 | 20.04 | 1.202 | 17.72 | 6.043 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 3:40:33 | 20.01 | 1.203 | 17.72 | 6.043 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 3:45:33 | 20.01 | 1.203 | 17.72 | 6.042 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 3:50:33 | 20.02 | 1.203 | 17.73 | 6.044 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 3:55:33 | 20.01 | 1.203 | 17.72 | 6.042 | 4.12 | 130.5 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 4:00:33 | 19.99 | 1.203 | 17.72 | 6.043 | 4.12 | 130.4 | -162 | 2.7 | 0.24 |
| 4/17/2012 | 4:05:33 | 19.99 | 1.203 | 17.72 | 6.041 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 4:10:32 | 20.04 | 1.202 | 17.72 | 6.036 | 4.12 | 130.4 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 4:15:33 | 20.04 | 1.203 | 17.72 | 6.037 | 4.12 | 130.4 | -161 | 2.6 | 0.24 |
| 4/17/2012 | 4:20:32 | 20.01 | 1.203 | 17.72 | 6.037 | 4.12 | 130.4 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 4:25:33 | 19.97 | 1.203 | 17.72 | 6.039 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 4:30:33 | 19.95 | 1.203 | 17.72 | 6.038 | 4.12 | 130.5 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 4:35:33 | 19.94 | 1.204 | 17.72 | 6.039 | 4.12 | 130.5 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 4:40:33 | 19.93 | 1.204 | 17.72 | 6.04 | 4.12 | 130.5 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 4:45:33 | 19.93 | 1.204 | 17.72 | 6.041 | 4.12 | 130.5 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 4:50:33 | 19.91 | 1.204 | 17.72 | 6.039 | 4.12 | 130.5 | -166 | 2.7 | 0.24 |
| 4/17/2012 | 4:55:33 | 19.96 | 1.203 | 17.72 | 6.039 | 4.12 | 130.5 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 5:00:32 | 19.96 | 1.204 | 17.72 | 6.042 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 5:05:33 | 19.95 | 1.204 | 17.72 | 6.036 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 5:10:32 | 19.96 | 1.204 | 17.72 | 6.036 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 5:15:32 | 19.95 | 1.204 | 17.72 | 6.039 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 5:20:33 | 20.03 | 1.203 | 17.72 | 6.04 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 5:25:32 | 19.98 | 1.204 | 17.72 | 6.043 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 5:30:32 | 20.04 | 1.203 | 17.72 | 6.039 | 4.12 | 130.4 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 5:35:33 | 20 | 1.204 | 17.72 | 6.037 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 5:40:32 | 19.97 | 1.204 | 17.72 | 6.038 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 5:45:33 | 20.01 | 1.204 | 17.72 | 6.042 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 5:50:33 | 19.97 | 1.204 | 17.73 | 6.045 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 5:55:32 | 20.05 | 1.202 | 17.73 | 6.047 | 4.12 | 130.4 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 6:00:33 | 20.02 | 1.203 | 17.73 | 6.045 | 4.12 | 130.4 | -161 | 2.7 | 0.24 |
| 4/17/2012 | 6:05:33 | 20 | 1.203 | 17.73 | 6.048 | 4.12 | 130.4 | -162 | 2.6 | 0.24 |
| 4/17/2012 | 6:10:32 | 19.99 | 1.204 | 17.73 | 6.047 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 6:15:33 | 20.01 | 1.204 | 17.73 | 6.048 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 6:20:33 | 20.03 | 1.203 | 17.73 | 6.051 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 6:25:32 | 20.04 | 1.203 | 17.73 | 6.051 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 6:30:33 | 20.03 | 1.204 | 17.73 | 6.055 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 6:35:32 | 19.99 | 1.204 | 17.73 | 6.056 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 6:40:33 | 19.98 | 1.203 | 17.73 | 6.059 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 6:45:32 | 19.96 | 1.204 | 17.73 | 6.063 | 4.12 | 130.5 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 6:50:32 | 19.95 | 1.204 | 17.73 | 6.061 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 6:55:33 | 20 | 1.203 | 17.73 | 6.064 | 4.12 | 130.4 | -164 | 2.7 | 0.24 |
| 4/17/2012 | 7:00:33 | 20.02 | 1.203 | 17.73 | 6.065 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 7:05:33 | 20 | 1.204 | 17.74 | 6.069 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 7:10:32 | 19.99 | 1.204 | 17.74 | 6.071 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 7:15:33 | 20 | 1.204 | 17.74 | 6.074 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 7:20:33 | 20.03 | 1.203 | 17.74 | 6.075 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 7:25:33 | 19.97 | 1.204 | 17.73 | 6.066 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 7:30:33 | 19.95 | 1.204 | 17.74 | 6.068 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 7:35:33 | 19.93 | 1.203 | 17.74 | 6.07 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 7:40:32 | 19.92 | 1.204 | 17.74 | 6.07 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 7:45:32 | 19.92 | 1.204 | 17.74 | 6.069 | 4.12 | 130.4 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 7:50:33 | 19.94 | 1.205 | 17.74 | 6.068 | 4.12 | 130.4 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 7:55:33 | 20.04 | 1.202 | 17.74 | 6.07 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 8:00:33 | 20.01 | 1.203 | 17.74 | 6.071 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 8:05:33 | 19.99 | 1.204 | 17.74 | 6.072 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 8:10:33 | 19.98 | 1.204 | 17.74 | 6.074 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 8:15:32 | 20 | 1.204 | 17.74 | 6.076 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 8:20:33 | 19.97 | 1.204 | 17.74 | 6.077 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 8:25:33 | 19.97 | 1.204 | 17.74 | 6.079 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 8:30:32 | 19.96 | 1.203 | 17.74 | 6.076 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 8:35:33 | 20.03 | 1.203 | 17.74 | 6.079 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 8:40:33 | 20.01 | 1.203 | 17.74 | 6.08 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 8:45:33 | 19.98 | 1.204 | 17.74 | 6.08 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 8:50:32 | 20.02 | 1.203 | 17.74 | 6.08 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 8:55:33 | 19.97 | 1.204 | 17.74 | 6.078 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 9:00:33 | 19.98 | 1.203 | 17.74 | 6.079 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 9:05:32 | 20 | 1.203 | 17.74 | 6.08 | 4.12 | 130.4 | -163 | 2.6 | 0.24 |
| 4/17/2012 | 9:10:33 | 19.97 | 1.203 | 17.74 | 6.082 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 9:15:33 | 19.96 | 1.203 | 17.74 | 6.08 | 4.12 | 130.4 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 9:20:33 | 19.96 | 1.204 | 17.74 | 6.078 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 9:25:32 | 19.95 | 1.203 | 17.74 | 6.078 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 9:30:33 | 19.93 | 1.203 | 17.74 | 6.079 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 9:35:33 | 19.92 | 1.203 | 17.74 | 6.08 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 9:40:32 | 19.99 | 1.202 | 17.74 | 6.079 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 9:45:32 | 20 | 1.203 | 17.74 | 6.076 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 9:50:33 | 19.97 | 1.203 | 17.74 | 6.075 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 9:55:33 | 19.94 | 1.203 | 17.74 | 6.076 | 4.12 | 130.3 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 10:00:33 | 19.93 | 1.203 | 17.74 | 6.075 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 10:05:33 | 19.93 | 1.203 | 17.74 | 6.073 | 4.12 | 130.4 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 10:10:32 | 19.98 | 1.203 | 17.74 | 6.072 | 4.12 | 130.4 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 10:15:33 | 19.98 | 1.203 | 17.74 | 6.073 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 10:20:32 | 19.94 | 1.203 | 17.74 | 6.073 | 4.12 | 130.3 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 10:25:33 | 19.98 | 1.203 | 17.74 | 6.072 | 4.12 | 130.3 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 10:30:32 | 19.97 | 1.203 | 17.74 | 6.074 | 4.12 | 130.4 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 10:35:33 | 19.96 | 1.203 | 17.74 | 6.073 | 4.12 | 130.3 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 10:40:33 | 19.94 | 1.203 | 17.74 | 6.072 | 4.12 | 130.3 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 10:45:33 | 19.95 | 1.203 | 17.74 | 6.071 | 4.12 | 130.4 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 10:50:32 | 19.93 | 1.203 | 17.74 | 6.074 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 10:55:33 | 19.94 | 1.203 | 17.74 | 6.069 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 11:00:32 | 19.96 | 1.202 | 17.74 | 6.07 | 4.12 | 130.3 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 11:05:33 | 19.97 | 1.203 | 17.73 | 6.067 | 4.12 | 130.3 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 11:10:32 | 19.96 | 1.202 | 17.73 | 6.065 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 11:15:33 | 19.93 | 1.203 | 17.74 | 6.068 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 11:20:33 | 19.92 | 1.202 | 17.73 | 6.066 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 11:25:33 | 19.91 | 1.202 | 17.73 | 6.065 | 4.12 | 130.3 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 11:30:33 | 19.93 | 1.202 | 17.73 | 6.065 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 11:35:33 | 19.92 | 1.203 | 17.73 | 6.06 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 11:40:33 | 19.98 | 1.203 | 17.73 | 6.058 | 4.12 | 130.3 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 11:45:33 | 19.99 | 1.203 | 17.73 | 6.058 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 11:50:32 | 19.98 | 1.202 | 17.73 | 6.056 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 11:55:33 | 19.98 | 1.202 | 17.73 | 6.056 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 12:00:32 | 19.99 | 1.202 | 17.73 | 6.055 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 12:05:32 | 20.06 | 1.2 | 17.73 | 6.052 | 4.12 | 130.3 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 12:10:33 | 20.04 | 1.201 | 17.73 | 6.051 | 4.12 | 130.2 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 12:15:32 | 20.01 | 1.202 | 17.73 | 6.051 | 4.12 | 130.3 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 12:20:32 | 19.98 | 1.202 | 17.73 | 6.051 | 4.12 | 130.3 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 12:25:33 | 19.99 | 1.202 | 17.73 | 6.048 | 4.12 | 130.2 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 12:30:33 | 19.96 | 1.202 | 17.73 | 6.046 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 12:35:33 | 19.98 | 1.202 | 17.72 | 6.043 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 12:40:33 | 19.95 | 1.202 | 17.72 | 6.042 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 12:45:32 | 19.99 | 1.202 | 17.72 | 6.038 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 12:50:32 | 19.97 | 1.202 | 17.72 | 6.038 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 12:55:33 | 20.01 | 1.202 | 17.72 | 6.035 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 13:00:33 | 19.97 | 1.202 | 17.72 | 6.034 | 4.12 | 130.2 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 13:05:33 | 20.02 | 1.201 | 17.72 | 6.034 | 4.12 | 130.3 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 13:10:32 | 19.98 | 1.202 | 17.71 | 6.021 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 13:15:33 | 19.97 | 1.202 | 17.72 | 6.023 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 13:20:33 | 19.99 | 1.202 | 17.72 | 6.021 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 13:25:33 | 19.95 | 1.202 | 17.71 | 6.021 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 13:30:32 | 19.93 | 1.203 | 17.71 | 6.021 | 4.12 | 130.3 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 13:35:32 | 19.94 | 1.203 | 17.71 | 6.016 | 4.12 | 130.3 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 13:40:33 | 20.04 | 1.202 | 17.71 | 6.018 | 4.12 | 130.3 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 13:45:33 | 20.03 | 1.202 | 17.71 | 6.013 | 4.12 | 130.3 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 13:50:32 | 20.07 | 1.201 | 17.71 | 6.017 | 4.12 | 130.3 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 13:55:32 | 20.06 | 1.202 | 17.71 | 6.013 | 4.12 | 130.3 | -164 | 2.6 | 0.24 |
| 4/17/2012 | 14:00:33 | 20.01 | 1.203 | 17.71 | 6.012 | 4.12 | 130.3 | -165 | 2.6 | 0.24 |
| 4/17/2012 | 14:05:33 | 20.01 | 1.202 | 17.71 | 6.013 | 4.12 | 130.4 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 14:10:32 | 19.99 | 1.203 | 17.71 | 6.011 | 4.12 | 130.4 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 14:15:32 | 19.97 | 1.203 | 17.71 | 6.013 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 14:20:32 | 20 | 1.203 | 17.71 | 6.01 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 14:25:32 | 20.03 | 1.203 | 17.71 | 6.008 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 14:30:33 | 20.03 | 1.203 | 17.71 | 6.01 | 4.12 | 130.4 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 14:35:33 | 20.02 | 1.203 | 17.71 | 6.009 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 14:40:32 | 20.02 | 1.203 | 17.71 | 6.008 | 4.12 | 130.3 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 14:45:33 | 20.02 | 1.203 | 17.71 | 6.008 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 14:50:33 | 20 | 1.203 | 17.71 | 6.005 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 14:55:33 | 19.99 | 1.204 | 17.71 | 6.001 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 15:00:33 | 20 | 1.204 | 17.71 | 5.998 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 15:05:32 | 19.99 | 1.204 | 17.7 | 5.995 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 15:10:32 | 19.98 | 1.204 | 17.7 | 5.993 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 15:15:32 | 19.96 | 1.204 | 17.7 | 5.994 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 15:20:33 | 20 | 1.203 | 17.7 | 5.99 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 15:25:33 | 20.01 | 1.203 | 17.7 | 5.988 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 15:30:33 | 19.99 | 1.204 | 17.7 | 5.99 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 15:35:33 | 20.03 | 1.204 | 17.7 | 5.994 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 15:40:32 | 19.99 | 1.204 | 17.7 | 5.994 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 15:45:33 | 20.06 | 1.203 | 17.7 | 5.996 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 15:50:32 | 20.02 | 1.204 | 17.7 | 5.994 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 15:55:32 | 19.99 | 1.204 | 17.7 | 5.993 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 16:00:32 | 20 | 1.204 | 17.7 | 5.991 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 16:05:33 | 19.96 | 1.205 | 17.7 | 5.991 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 16:10:33 | 20 | 1.204 | 17.7 | 5.991 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 16:15:33 | 20 | 1.204 | 17.7 | 5.986 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 16:20:32 | 19.98 | 1.205 | 17.7 | 5.988 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 16:25:32 | 19.99 | 1.204 | 17.7 | 5.986 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 16:30:33 | 20.02 | 1.204 | 17.7 | 5.986 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 16:35:33 | 19.98 | 1.205 | 17.7 | 5.982 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 16:40:33 | 19.96 | 1.205 | 17.69 | 5.972 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 16:45:33 | 19.99 | 1.204 | 17.69 | 5.974 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 16:50:33 | 19.97 | 1.204 | 17.7 | 5.975 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 16:55:33 | 19.97 | 1.205 | 17.69 | 5.972 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 17:00:33 | 20.05 | 1.204 | 17.69 | 5.975 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 17:05:32 | 20.01 | 1.205 | 17.7 | 5.977 | 4.12 | 130.5 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 17:10:32 | 19.96 | 1.206 | 17.7 | 5.976 | 4.12 | 130.5 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 17:15:33 | 19.95 | 1.205 | 17.69 | 5.973 | 4.12 | 130.5 | -168 | 2.6 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 17:20:32 | 19.96 | 1.206 | 17.69 | 5.972 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 17:25:32 | 19.96 | 1.206 | 17.69 | 5.973 | 4.12 | 130.5 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 17:30:32 | 19.93 | 1.207 | 17.69 | 5.972 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 17:35:32 | 20 | 1.206 | 17.69 | 5.971 | 4.12 | 130.5 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 17:40:32 | 20.03 | 1.205 | 17.69 | 5.973 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 17:45:32 | 20.06 | 1.205 | 17.69 | 5.972 | 4.12 | 130.5 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 17:50:33 | 20.04 | 1.206 | 17.69 | 5.974 | 4.12 | 130.5 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 17:55:33 | 20.01 | 1.206 | 17.69 | 5.975 | 4.12 | 130.5 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 18:00:32 | 20.01 | 1.206 | 17.7 | 5.976 | 4.12 | 130.5 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 18:05:32 | 20.01 | 1.206 | 17.7 | 5.976 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 18:10:32 | 20 | 1.207 | 17.7 | 5.976 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 18:15:32 | 19.97 | 1.207 | 17.7 | 5.977 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 18:20:33 | 19.96 | 1.207 | 17.7 | 5.979 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 18:25:33 | 20 | 1.206 | 17.7 | 5.98 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 18:30:32 | 19.98 | 1.207 | 17.7 | 5.981 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 18:35:33 | 20.02 | 1.206 | 17.7 | 5.985 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 18:40:33 | 20.02 | 1.207 | 17.7 | 5.987 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 18:45:32 | 19.98 | 1.207 | 17.7 | 5.986 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 18:50:33 | 19.96 | 1.207 | 17.7 | 5.986 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 18:55:33 | 19.95 | 1.207 | 17.7 | 5.983 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 19:00:32 | 19.95 | 1.207 | 17.7 | 5.983 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 19:05:33 | 19.95 | 1.208 | 17.7 | 5.981 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 19:10:33 | 19.96 | 1.208 | 17.7 | 5.983 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 19:15:33 | 20.02 | 1.208 | 17.7 | 5.981 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 19:20:33 | 20.05 | 1.207 | 17.7 | 5.983 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 19:25:32 | 20.01 | 1.207 | 17.7 | 5.982 | 4.12 | 130.5 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 19:30:32 | 19.98 | 1.208 | 17.7 | 5.981 | 4.12 | 130.5 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 19:35:33 | 20 | 1.208 | 17.7 | 5.984 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 19:40:33 | 19.97 | 1.208 | 17.7 | 5.984 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 19:45:32 | 19.98 | 1.208 | 17.7 | 5.983 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 19:50:32 | 20.07 | 1.207 | 17.7 | 5.982 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 19:55:33 | 20.05 | 1.208 | 17.7 | 5.985 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 20:00:33 | 20.02 | 1.208 | 17.7 | 5.986 | 4.12 | 130.5 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 20:05:32 | 20.05 | 1.208 | 17.7 | 5.986 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 20:10:32 | 20.04 | 1.208 | 17.7 | 5.984 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 20:15:32 | 20 | 1.208 | 17.7 | 5.988 | 4.12 | 130.5 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 20:20:32 | 19.99 | 1.208 | 17.7 | 5.991 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 20:25:33 | 20.05 | 1.207 | 17.7 | 5.989 | 4.12 | 130.6 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 20:30:32 | 20.05 | 1.208 | 17.7 | 5.993 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 20:35:32 | 20 | 1.208 | 17.7 | 5.993 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 20:40:32 | 20.04 | 1.208 | 17.7 | 5.989 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 20:45:32 | 20.05 | 1.208 | 17.7 | 5.987 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 20:50:32 | 20.04 | 1.208 | 17.7 | 5.991 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 20:55:32 | 20.04 | 1.208 | 17.7 | 5.995 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 21:00:32 | 20.03 | 1.208 | 17.71 | 5.998 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 21:05:32 | 20.01 | 1.208 | 17.71 | 5.999 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 21:10:32 | 20.01 | 1.208 | 17.71 | 6 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 21:15:32 | 19.97 | 1.209 | 17.71 | 5.999 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 21:20:32 | 19.97 | 1.209 | 17.71 | 6.001 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 21:25:32 | 19.96 | 1.209 | 17.71 | 6.004 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 21:30:32 | 19.96 | 1.209 | 17.71 | 6.002 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 21:35:32 | 20.02 | 1.209 | 17.71 | 6 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 21:40:32 | 19.98 | 1.209 | 17.7 | 5.993 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 21:45:32 | 20.05 | 1.208 | 17.7 | 5.993 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 21:50:32 | 20.01 | 1.209 | 17.7 | 5.997 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 21:55:32 | 20.02 | 1.209 | 17.71 | 6.001 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 22:00:32 | 20.02 | 1.208 | 17.71 | 6.001 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 22:05:32 | 20.04 | 1.209 | 17.71 | 6.001 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 22:10:33 | 19.98 | 1.209 | 17.71 | 5.998 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 22:15:32 | 19.97 | 1.209 | 17.7 | 5.996 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 22:20:32 | 19.97 | 1.209 | 17.7 | 5.994 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 22:25:32 | 20.05 | 1.208 | 17.7 | 5.994 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 22:30:32 | 20.06 | 1.208 | 17.71 | 5.999 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 22:35:32 | 20.05 | 1.208 | 17.71 | 5.999 | 4.12 | 130.5 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 22:40:32 | 20.05 | 1.209 | 17.71 | 5.998 | 4.12 | 130.5 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 22:45:32 | 20.09 | 1.208 | 17.71 | 5.998 | 4.12 | 130.5 | -166 | 2.6 | 0.24 |
| 4/17/2012 | 22:50:32 | 20.05 | 1.208 | 17.71 | 6.001 | 4.12 | 130.6 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 22:55:32 | 20.02 | 1.208 | 17.71 | 6 | 4.12 | 130.6 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 23:00:32 | 19.99 | 1.209 | 17.71 | 6 | 4.12 | 130.6 | -167 | 2.6 | 0.24 |
| 4/17/2012 | 23:05:32 | 19.98 | 1.209 | 17.71 | 5.999 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 23:10:32 | 19.96 | 1.209 | 17.71 | 5.999 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 23:15:32 | 19.96 | 1.209 | 17.71 | 5.998 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 23:20:32 | 19.99 | 1.208 | 17.7 | 5.996 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 23:25:32 | 19.98 | 1.209 | 17.7 | 5.997 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 23:30:32 | 19.98 | 1.209 | 17.7 | 5.996 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/17/2012 | 23:35:33 | 20.07 | 1.208 | 17.7 | 5.995 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 23:40:32 | 20.01 | 1.208 | 17.7 | 5.996 | 4.12 | 130.6 | -168 | 2.6 | 0.24 |
| 4/17/2012 | 23:45:32 | 19.98 | 1.208 | 17.7 | 5.993 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 23:50:32 | 19.96 | 1.209 | 17.7 | 5.994 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/17/2012 | 23:55:32 | 20.02 | 1.208 | 17.7 | 5.995 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 0:00:32 | 20.05 | 1.208 | 17.7 | 5.991 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 0:05:32 | 20.09 | 1.207 | 17.7 | 5.993 | 4.12 | 130.6 | -167 | 2.6 | 0.24 |
| 4/18/2012 | 0:10:32 | 20.05 | 1.208 | 17.7 | 5.993 | 4.12 | 130.6 | -167 | 2.6 | 0.24 |
| 4/18/2012 | 0:15:32 | 20.02 | 1.208 | 17.7 | 5.996 | 4.12 | 130.5 | -168 | 2.6 | 0.24 |
| 4/18/2012 | 0:20:32 | 20 | 1.208 | 17.71 | 5.998 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 0:25:32 | 19.97 | 1.209 | 17.7 | 5.997 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 0:30:33 | 19.97 | 1.208 | 17.7 | 5.996 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 0:35:32 | 19.98 | 1.208 | 17.7 | 5.994 | 4.12 | 130.6 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 0:40:32 | 20.03 | 1.208 | 17.7 | 5.992 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 0:45:32 | 19.98 | 1.209 | 17.7 | 5.989 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 0:50:32 | 19.98 | 1.209 | 17.7 | 5.987 | 4.12 | 130.6 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 0:55:32 | 19.96 | 1.208 | 17.7 | 5.989 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 1:00:32 | 19.99 | 1.208 | 17.7 | 5.982 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 1:05:32 | 20 | 1.208 | 17.69 | 5.974 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 1:10:32 | 19.98 | 1.209 | 17.69 | 5.971 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 1:15:32 | 19.98 | 1.209 | 17.69 | 5.969 | 4.12 | 130.5 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 1:20:32 | 19.96 | 1.208 | 17.69 | 5.969 | 4.12 | 130.5 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 1:25:32 | 19.96 | 1.208 | 17.69 | 5.965 | 4.12 | 130.5 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 1:30:32 | 19.99 | 1.208 | 17.68 | 5.95 | 4.12 | 130.5 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 1:35:32 | 20.05 | 1.208 | 17.68 | 5.949 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 1:40:32 | 20.02 | 1.208 | 17.68 | 5.948 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 1:45:32 | 20 | 1.208 | 17.68 | 5.944 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 1:50:32 | 20.04 | 1.208 | 17.68 | 5.94 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 1:55:32 | 19.98 | 1.209 | 17.68 | 5.938 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 2:00:32 | 19.97 | 1.208 | 17.68 | 5.933 | 4.12 | 130.5 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 2:05:32 | 20.06 | 1.207 | 17.68 | 5.931 | 4.12 | 130.5 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 2:10:32 | 20.08 | 1.206 | 17.67 | 5.928 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 2:15:32 | 20.09 | 1.207 | 17.68 | 5.931 | 4.12 | 130.5 | -167 | 2.6 | 0.24 |
| 4/18/2012 | 2:20:32 | 20.08 | 1.207 | 17.68 | 5.932 | 4.12 | 130.4 | -167 | 2.6 | 0.24 |
| 4/18/2012 | 2:25:32 | 20.05 | 1.208 | 17.67 | 5.927 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 2:30:32 | 20.04 | 1.208 | 17.67 | 5.928 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 2:35:32 | 20.02 | 1.209 | 17.68 | 5.931 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 2:40:32 | 20 | 1.208 | 17.67 | 5.927 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 2:45:32 | 20.02 | 1.209 | 17.67 | 5.925 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 2:50:32 | 20 | 1.209 | 17.67 | 5.927 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 2:55:32 | 19.99 | 1.208 | 17.67 | 5.923 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 3:00:32 | 20.04 | 1.209 | 17.67 | 5.923 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 3:05:32 | 20.06 | 1.208 | 17.67 | 5.919 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/18/2012 | 3:10:32 | 20 | 1.209 | 17.67 | 5.918 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/18/2012 | 3:15:32 | 19.99 | 1.209 | 17.67 | 5.915 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 3:20:32 | 20.03 | 1.209 | 17.67 | 5.922 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 3:25:32 | 20.01 | 1.209 | 17.67 | 5.922 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 3:30:32 | 20.03 | 1.208 | 17.67 | 5.92 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 3:35:32 | 20.01 | 1.209 | 17.67 | 5.919 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 3:40:32 | 19.98 | 1.209 | 17.67 | 5.915 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 3:45:32 | 19.96 | 1.21 | 17.67 | 5.914 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 3:50:32 | 19.96 | 1.209 | 17.67 | 5.915 | 4.12 | 130.5 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 3:55:32 | 19.95 | 1.21 | 17.67 | 5.915 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 4:00:32 | 20.03 | 1.209 | 17.67 | 5.916 | 4.12 | 130.4 | -171 | 2.7 | 0.24 |
| 4/18/2012 | 4:05:32 | 20.02 | 1.209 | 17.67 | 5.915 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 4:10:32 | 20 | 1.209 | 17.67 | 5.917 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 4:15:32 | 19.97 | 1.209 | 17.67 | 5.916 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 4:20:32 | 19.98 | 1.21 | 17.67 | 5.915 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 4:25:32 | 19.98 | 1.21 | 17.67 | 5.914 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 4:30:32 | 19.98 | 1.21 | 17.67 | 5.911 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 4:35:32 | 19.98 | 1.21 | 17.67 | 5.911 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 4:40:32 | 19.96 | 1.21 | 17.67 | 5.913 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 4:45:32 | 19.98 | 1.21 | 17.67 | 5.911 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 4:50:32 | 20.1 | 1.209 | 17.67 | 5.916 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/18/2012 | 4:55:32 | 20.05 | 1.21 | 17.67 | 5.918 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/18/2012 | 5:00:32 | 20.01 | 1.21 | 17.67 | 5.919 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 5:05:32 | 20.02 | 1.209 | 17.67 | 5.918 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 5:10:32 | 20.02 | 1.21 | 17.67 | 5.92 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 5:15:32 | 20 | 1.211 | 17.67 | 5.92 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 5:20:32 | 19.97 | 1.21 | 17.67 | 5.925 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 5:25:32 | 19.95 | 1.21 | 17.67 | 5.926 | 4.12 | 130.5 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 5:30:32 | 19.96 | 1.209 | 17.67 | 5.928 | 4.12 | 130.5 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 5:35:32 | 19.98 | 1.21 | 17.67 | 5.923 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 5:40:32 | 19.96 | 1.211 | 17.67 | 5.928 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 5:45:32 | 19.96 | 1.211 | 17.67 | 5.926 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 5:50:32 | 19.98 | 1.211 | 17.67 | 5.921 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 5:55:32 | 19.98 | 1.211 | 17.67 | 5.921 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 6:00:32 | 19.96 | 1.211 | 17.67 | 5.925 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 6:05:32 | 19.98 | 1.21 | 17.67 | 5.922 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 6:10:32 | 19.97 | 1.211 | 17.67 | 5.927 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 6:15:32 | 19.97 | 1.211 | 17.67 | 5.928 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 6:20:32 | 19.96 | 1.211 | 17.68 | 5.929 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 6:25:32 | 19.99 | 1.211 | 17.67 | 5.928 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 6:30:32 | 19.98 | 1.21 | 17.68 | 5.931 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 6:35:32 | 19.99 | 1.211 | 17.68 | 5.929 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 6:40:32 | 19.96 | 1.21 | 17.68 | 5.932 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 6:45:32 | 19.95 | 1.21 | 17.68 | 5.929 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 6:50:32 | 19.93 | 1.21 | 17.68 | 5.93 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 6:55:32 | 19.96 | 1.21 | 17.68 | 5.932 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 7:00:32 | 19.95 | 1.21 | 17.68 | 5.931 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 7:05:32 | 19.96 | 1.21 | 17.68 | 5.934 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 7:10:32 | 19.97 | 1.211 | 17.68 | 5.932 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 7:15:32 | 19.96 | 1.211 | 17.68 | 5.938 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 7:20:32 | 19.96 | 1.21 | 17.68 | 5.936 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 7:25:32 | 19.97 | 1.211 | 17.68 | 5.938 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 7:30:32 | 19.96 | 1.211 | 17.68 | 5.939 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 7:35:32 | 19.95 | 1.21 | 17.68 | 5.938 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 7:40:32 | 19.98 | 1.21 | 17.68 | 5.936 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 7:45:32 | 20.02 | 1.21 | 17.68 | 5.935 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 7:50:32 | 20.01 | 1.21 | 17.68 | 5.933 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 7:55:32 | 20.05 | 1.209 | 17.68 | 5.935 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 8:00:32 | 20.02 | 1.21 | 17.68 | 5.939 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 8:05:32 | 20.07 | 1.21 | 17.68 | 5.938 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 8:10:32 | 20.1 | 1.208 | 17.68 | 5.939 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/18/2012 | 8:15:32 | 20.09 | 1.208 | 17.68 | 5.941 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/18/2012 | 8:20:32 | 20.06 | 1.209 | 17.68 | 5.942 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/18/2012 | 8:25:32 | 20.09 | 1.208 | 17.68 | 5.94 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 8:30:32 | 20.08 | 1.209 | 17.68 | 5.942 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |
| 4/18/2012 | 8:35:32 | 20.04 | 1.209 | 17.68 | 5.946 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 8:40:32 | 20.03 | 1.21 | 17.68 | 5.944 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 8:45:32 | 20.01 | 1.209 | 17.68 | 5.941 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 8:50:32 | 19.99 | 1.21 | 17.68 | 5.942 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 8:55:32 | 20.01 | 1.21 | 17.68 | 5.947 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 9:00:32 | 19.99 | 1.209 | 17.67 | 5.926 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 9:05:32 | 19.98 | 1.209 | 17.68 | 5.931 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 9:10:32 | 20.03 | 1.209 | 17.68 | 5.932 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 9:15:32 | 20 | 1.21 | 17.68 | 5.932 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 9:20:32 | 19.99 | 1.21 | 17.68 | 5.933 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 9:25:32 | 20.05 | 1.209 | 17.68 | 5.935 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 9:30:32 | 20.03 | 1.21 | 17.68 | 5.933 | 4.12 | 130.3 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 9:35:32 | 19.99 | 1.21 | 17.68 | 5.937 | 4.12 | 130.3 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 9:40:32 | 20 | 1.21 | 17.68 | 5.938 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 9:45:32 | 19.98 | 1.21 | 17.68 | 5.937 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 9:50:32 | 20.1 | 1.208 | 17.68 | 5.939 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 9:55:32 | 20.06 | 1.209 | 17.68 | 5.938 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 10:00:32 | 20.06 | 1.21 | 17.68 | 5.94 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 10:05:32 | 20.01 | 1.21 | 17.68 | 5.943 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 10:10:32 | 19.99 | 1.21 | 17.68 | 5.942 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 10:15:32 | 20.05 | 1.21 | 17.68 | 5.944 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 10:20:32 | 20.04 | 1.21 | 17.68 | 5.943 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 10:25:32 | 20.01 | 1.21 | 17.68 | 5.942 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 10:30:32 | 19.99 | 1.21 | 17.68 | 5.94 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 10:35:32 | 19.99 | 1.211 | 17.68 | 5.94 | 4.12 | 130.7 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 10:40:32 | 19.99 | 1.21 | 17.68 | 5.941 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 10:45:32 | 19.99 | 1.211 | 17.68 | 5.939 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 10:50:32 | 19.99 | 1.211 | 17.68 | 5.939 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 10:55:32 | 20.08 | 1.209 | 17.68 | 5.939 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 11:00:32 | 20.02 | 1.211 | 17.68 | 5.939 | 4.12 | 130.3 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 11:05:32 | 20 | 1.211 | 17.68 | 5.94 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 11:10:32 | 19.99 | 1.21 | 17.68 | 5.938 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 11:15:32 | 20.01 | 1.21 | 17.68 | 5.937 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 11:20:32 | 20.03 | 1.21 | 17.68 | 5.936 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 11:25:32 | 20.1 | 1.208 | 17.68 | 5.935 | 4.12 | 130.3 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 11:30:32 | 20.1 | 1.208 | 17.68 | 5.937 | 4.12 | 130.5 | -167 | 2.6 | 0.24 |
| 4/18/2012 | 11:35:32 | 20.08 | 1.209 | 17.68 | 5.936 | 4.12 | 130.4 | -168 | 2.6 | 0.24 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 11:40:32 | 20.04 | 1.209 | 17.68 | 5.936 | 4.12 | 130.2 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 11:45:32 | 20.1 | 1.209 | 17.68 | 5.938 | 4.12 | 130.3 | -168 | 2.6 | 0.24 |
| 4/18/2012 | 11:50:32 | 20.06 | 1.21 | 17.68 | 5.94 | 4.12 | 130.3 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 11:55:32 | 20.03 | 1.21 | 17.68 | 5.938 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 12:00:32 | 20.04 | 1.209 | 17.68 | 5.937 | 4.12 | 130.4 | -169 | 2.6 | 0.24 |
| 4/18/2012 | 12:05:32 | 20.04 | 1.21 | 17.68 | 5.936 | 4.12 | 130.3 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 12:10:32 | 20.04 | 1.21 | 17.68 | 5.938 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 12:15:32 | 20.05 | 1.21 | 17.68 | 5.935 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 12:20:32 | 20.03 | 1.21 | 17.68 | 5.933 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 12:25:32 | 20.01 | 1.211 | 17.68 | 5.929 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 12:30:32 | 20.02 | 1.21 | 17.67 | 5.925 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 12:35:32 | 20.06 | 1.21 | 17.67 | 5.924 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 12:40:32 | 20.05 | 1.21 | 17.67 | 5.922 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 12:45:32 | 20 | 1.21 | 17.67 | 5.92 | 4.12 | 130.4 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 12:50:32 | 19.99 | 1.21 | 17.67 | 5.921 | 4.12 | 130.5 | -170 | 2.6 | 0.24 |
| 4/18/2012 | 12:55:32 | 19.97 | 1.21 | 17.67 | 5.916 | 4.12 | 130.6 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 13:00:32 | 20 | 1.21 | 17.67 | 5.913 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 13:05:32 | 19.99 | 1.21 | 17.67 | 5.91 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 13:10:32 | 19.97 | 1.21 | 17.67 | 5.909 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 13:15:32 | 19.98 | 1.21 | 17.67 | 5.905 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 13:20:32 | 19.99 | 1.21 | 17.66 | 5.896 | 4.12 | 130.4 | -171 | 2.6 | 0.24 |
| 4/18/2012 | 13:25:32 | 19.98 | 1.21 | 17.66 | 5.894 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 13:30:32 | 19.97 | 1.21 | 17.66 | 5.894 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 13:35:32 | 19.98 | 1.21 | 17.66 | 5.894 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 13:40:32 | 20.02 | 1.21 | 17.66 | 5.893 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 13:45:32 | 19.98 | 1.21 | 17.66 | 5.893 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 13:50:32 | 19.97 | 1.21 | 17.66 | 5.894 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 13:55:32 | 19.97 | 1.21 | 17.66 | 5.885 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 14:00:32 | 19.98 | 1.211 | 17.66 | 5.887 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 14:05:32 | 19.98 | 1.21 | 17.66 | 5.887 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 14:10:32 | 19.98 | 1.211 | 17.66 | 5.886 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 14:15:32 | 19.98 | 1.211 | 17.66 | 5.886 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 14:20:32 | 20.03 | 1.21 | 17.66 | 5.886 | 4.12 | 130.2 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 14:25:32 | 20.03 | 1.21 | 17.66 | 5.886 | 4.12 | 130.3 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 14:30:32 | 20.03 | 1.211 | 17.66 | 5.884 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 14:35:32 | 20 | 1.211 | 17.66 | 5.883 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 14:40:32 | 20 | 1.21 | 17.65 | 5.88 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 14:45:32 | 19.97 | 1.211 | 17.66 | 5.886 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 14:50:32 | 19.97 | 1.21 | 17.65 | 5.881 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 14:55:32 | 19.96 | 1.208 | 17.65 | 5.878 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 15:00:32 | 19.97 | 1.21 | 17.65 | 5.875 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 15:05:32 | 19.97 | 1.211 | 17.65 | 5.875 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 15:10:32 | 20.01 | 1.21 | 17.65 | 5.869 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 15:15:32 | 19.97 | 1.211 | 17.65 | 5.87 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 15:20:32 | 19.97 | 1.211 | 17.65 | 5.867 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 15:25:32 | 19.96 | 1.211 | 17.65 | 5.868 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 15:30:32 | 19.97 | 1.211 | 17.65 | 5.869 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 15:35:32 | 19.95 | 1.211 | 17.65 | 5.866 | 4.12 | 130.4 | -175 | 2.6 | 0.24 |
| 4/18/2012 | 15:40:32 | 19.96 | 1.211 | 17.65 | 5.865 | 4.12 | 130.4 | -175 | 2.6 | 0.24 |
| 4/18/2012 | 15:45:32 | 20.08 | 1.21 | 17.65 | 5.86 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 15:50:32 | 20.1 | 1.21 | 17.65 | 5.859 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 15:55:32 | 20.05 | 1.21 | 17.64 | 5.857 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 16:00:32 | 20.05 | 1.211 | 17.64 | 5.857 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 16:05:32 | 20.05 | 1.212 | 17.64 | 5.854 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 16:10:32 | 20.02 | 1.211 | 17.64 | 5.858 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 16:15:32 | 20 | 1.211 | 17.64 | 5.85 | 4.12 | 130.4 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 16:20:32 | 20.01 | 1.211 | 17.64 | 5.849 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 16:25:32 | 20.04 | 1.212 | 17.64 | 5.853 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 16:30:32 | 20 | 1.211 | 17.64 | 5.852 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 16:35:32 | 20.04 | 1.211 | 17.64 | 5.852 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 16:40:32 | 19.99 | 1.212 | 17.64 | 5.853 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 16:45:32 | 19.99 | 1.212 | 17.64 | 5.853 | 4.12 | 130.6 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 16:50:32 | 19.97 | 1.212 | 17.64 | 5.853 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 16:55:32 | 19.99 | 1.211 | 17.64 | 5.853 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 17:00:32 | 19.97 | 1.212 | 17.64 | 5.855 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 17:05:32 | 20 | 1.212 | 17.64 | 5.856 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 17:10:32 | 20 | 1.212 | 17.64 | 5.855 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 17:15:32 | 19.99 | 1.212 | 17.64 | 5.858 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 17:20:32 | 20.06 | 1.211 | 17.65 | 5.861 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 17:25:32 | 20.02 | 1.212 | 17.65 | 5.864 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 17:30:32 | 20.02 | 1.212 | 17.65 | 5.864 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 17:35:32 | 20.02 | 1.212 | 17.65 | 5.864 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 17:40:32 | 19.99 | 1.213 | 17.65 | 5.867 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 17:45:32 | 20.03 | 1.212 | 17.65 | 5.864 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 17:50:32 | 20.06 | 1.211 | 17.65 | 5.866 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 17:55:32 | 20.03 | 1.212 | 17.65 | 5.87 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 18:00:32 | 20.02 | 1.212 | 17.65 | 5.864 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 18:05:32 | 20.05 | 1.212 | 17.65 | 5.864 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 18:10:32 | 20.01 | 1.213 | 17.65 | 5.868 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 18:15:32 | 20.03 | 1.212 | 17.65 | 5.867 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 18:20:32 | 20 | 1.213 | 17.65 | 5.871 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 18:25:32 | 20 | 1.213 | 17.65 | 5.869 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 18:30:32 | 19.99 | 1.212 | 17.65 | 5.869 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 18:35:32 | 19.98 | 1.213 | 17.65 | 5.874 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 18:40:32 | 19.96 | 1.212 | 17.65 | 5.873 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 18:45:32 | 19.97 | 1.213 | 17.65 | 5.873 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 18:50:32 | 20 | 1.213 | 17.65 | 5.874 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 18:55:32 | 20.07 | 1.212 | 17.65 | 5.873 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 19:00:32 | 20.03 | 1.213 | 17.65 | 5.877 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 19:05:32 | 20 | 1.212 | 17.65 | 5.877 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 19:10:32 | 20.02 | 1.212 | 17.65 | 5.867 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 19:15:32 | 20.01 | 1.213 | 17.65 | 5.869 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 19:20:32 | 20.05 | 1.212 | 17.65 | 5.871 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 19:25:32 | 20.04 | 1.212 | 17.65 | 5.873 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 19:30:32 | 20.04 | 1.212 | 17.65 | 5.872 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 19:35:32 | 20.01 | 1.213 | 17.65 | 5.875 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 19:40:32 | 19.98 | 1.213 | 17.65 | 5.879 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 19:45:32 | 20.11 | 1.211 | 17.65 | 5.877 | 4.12 | 130.6 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 19:50:32 | 20.08 | 1.212 | 17.65 | 5.879 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 19:55:32 | 20.04 | 1.212 | 17.65 | 5.88 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 20:00:32 | 20.03 | 1.212 | 17.66 | 5.883 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 20:05:32 | 20.08 | 1.212 | 17.65 | 5.881 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 20:10:32 | 20.06 | 1.212 | 17.66 | 5.885 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 20:15:32 | 20.12 | 1.211 | 17.65 | 5.881 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 20:20:32 | 20.11 | 1.211 | 17.66 | 5.886 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 20:25:32 | 20.07 | 1.212 | 17.65 | 5.882 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 20:30:32 | 20.04 | 1.213 | 17.65 | 5.881 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 20:35:32 | 20.02 | 1.213 | 17.66 | 5.884 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 20:40:32 | 20.02 | 1.213 | 17.66 | 5.884 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 20:45:32 | 20 | 1.213 | 17.66 | 5.886 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 20:50:32 | 19.99 | 1.213 | 17.66 | 5.888 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 20:55:32 | 20 | 1.213 | 17.66 | 5.888 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/18/2012 | 21:00:32 | 20.01 | 1.213 | 17.66 | 5.887 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/18/2012 | 21:05:32 | 19.98 | 1.213 | 17.66 | 5.889 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/18/2012 | 21:10:32 | 20.03 | 1.212 | 17.66 | 5.884 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/18/2012 | 21:15:32 | 19.99 | 1.213 | 17.66 | 5.888 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/18/2012 | 21:20:32 | 20 | 1.213 | 17.66 | 5.891 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/18/2012 | 21:25:32 | 20.08 | 1.212 | 17.66 | 5.891 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/18/2012 | 21:30:32 | 20.03 | 1.214 | 17.66 | 5.893 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 21:35:32 | 20.05 | 1.213 | 17.66 | 5.894 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 21:40:32 | 20.07 | 1.212 | 17.66 | 5.893 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 21:45:32 | 20.07 | 1.213 | 17.66 | 5.892 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 21:50:32 | 20.13 | 1.212 | 17.66 | 5.892 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 21:55:32 | 20.08 | 1.212 | 17.66 | 5.89 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 22:00:32 | 20.04 | 1.212 | 17.66 | 5.893 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 22:05:32 | 20.03 | 1.213 | 17.66 | 5.892 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 22:10:32 | 20.11 | 1.212 | 17.66 | 5.898 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 22:15:32 | 20.08 | 1.213 | 17.66 | 5.894 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 22:20:32 | 20.1 | 1.212 | 17.66 | 5.891 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 22:25:32 | 20.07 | 1.213 | 17.66 | 5.891 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 22:30:32 | 20.09 | 1.213 | 17.66 | 5.893 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 22:35:32 | 20.04 | 1.213 | 17.66 | 5.895 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |
| 4/18/2012 | 22:40:32 | 20.01 | 1.213 | 17.66 | 5.895 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 22:45:32 | 20.01 | 1.213 | 17.66 | 5.891 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 22:50:32 | 20.02 | 1.213 | 17.66 | 5.893 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 22:55:32 | 20.08 | 1.212 | 17.66 | 5.894 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 23:00:32 | 20.07 | 1.213 | 17.66 | 5.894 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 23:05:32 | 20.04 | 1.213 | 17.66 | 5.893 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 23:10:32 | 20.1 | 1.213 | 17.66 | 5.893 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 23:15:32 | 20.08 | 1.213 | 17.66 | 5.893 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 23:20:32 | 20.05 | 1.213 | 17.66 | 5.893 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 23:25:32 | 20.03 | 1.213 | 17.66 | 5.892 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/18/2012 | 23:30:32 | 20 | 1.214 | 17.66 | 5.893 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 23:35:32 | 20 | 1.214 | 17.66 | 5.892 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 23:40:32 | 20 | 1.213 | 17.66 | 5.893 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 23:45:32 | 20.06 | 1.213 | 17.66 | 5.894 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 23:50:32 | 20.02 | 1.214 | 17.66 | 5.897 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/18/2012 | 23:55:32 | 20.01 | 1.213 | 17.66 | 5.894 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 0:00:32 | 20.09 | 1.213 | 17.66 | 5.894 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 0:05:32 | 20.05 | 1.214 | 17.66 | 5.896 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 0:10:32 | 20.08 | 1.213 | 17.66 | 5.896 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 0:15:32 | 20.05 | 1.213 | 17.66 | 5.892 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 0:20:32 | 20.01 | 1.213 | 17.66 | 5.891 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 0:25:32 | 20.01 | 1.213 | 17.66 | 5.894 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 0:30:32 | 20.03 | 1.213 | 17.66 | 5.892 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 0:35:32 | 20 | 1.214 | 17.66 | 5.888 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 0:40:32 | 19.99 | 1.213 | 17.66 | 5.889 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 0:45:32 | 20.05 | 1.212 | 17.66 | 5.89 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 0:50:32 | 20.09 | 1.213 | 17.66 | 5.887 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 0:55:32 | 20.05 | 1.213 | 17.66 | 5.885 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 1:00:32 | 20.03 | 1.213 | 17.66 | 5.885 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 1:05:32 | 20 | 1.213 | 17.66 | 5.882 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 1:10:32 | 19.99 | 1.213 | 17.65 | 5.879 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 1:15:32 | 19.99 | 1.213 | 17.65 | 5.877 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 1:20:32 | 20.06 | 1.213 | 17.65 | 5.877 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/19/2012 | 1:25:32 | 20.03 | 1.213 | 17.65 | 5.875 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 1:30:32 | 20.01 | 1.213 | 17.65 | 5.875 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 1:35:32 | 20.06 | 1.213 | 17.65 | 5.873 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 1:40:32 | 20.03 | 1.213 | 17.65 | 5.872 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 1:45:32 | 20 | 1.213 | 17.65 | 5.872 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 1:50:32 | 20 | 1.213 | 17.65 | 5.869 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 1:55:32 | 19.99 | 1.213 | 17.65 | 5.868 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 2:00:32 | 20.01 | 1.213 | 17.65 | 5.864 | 4.12 | 130.4 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 2:05:32 | 20.01 | 1.213 | 17.65 | 5.859 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 2:10:32 | 20.01 | 1.214 | 17.64 | 5.857 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 2:15:32 | 20.01 | 1.214 | 17.64 | 5.853 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 2:20:32 | 20 | 1.213 | 17.64 | 5.855 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 2:25:32 | 19.99 | 1.214 | 17.64 | 5.854 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 2:30:32 | 20.03 | 1.214 | 17.64 | 5.853 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 2:35:32 | 20 | 1.214 | 17.64 | 5.851 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 2:40:32 | 20.08 | 1.212 | 17.64 | 5.852 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 2:45:32 | 20.03 | 1.213 | 17.64 | 5.846 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 2:50:32 | 20.02 | 1.214 | 17.64 | 5.849 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 2:55:32 | 20.03 | 1.214 | 17.64 | 5.846 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 3:00:32 | 20.02 | 1.214 | 17.64 | 5.846 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 3:05:32 | 20 | 1.214 | 17.64 | 5.845 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 3:10:32 | 19.99 | 1.213 | 17.64 | 5.846 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 3:15:32 | 20.04 | 1.213 | 17.64 | 5.847 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 3:20:32 | 20.15 | 1.211 | 17.64 | 5.849 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 3:25:32 | 20.1 | 1.213 | 17.64 | 5.854 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 3:30:32 | 20.07 | 1.213 | 17.64 | 5.851 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 3:35:32 | 20.08 | 1.213 | 17.64 | 5.85 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 3:40:32 | 20.07 | 1.212 | 17.64 | 5.85 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 3:45:32 | 20.06 | 1.214 | 17.64 | 5.848 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 3:50:32 | 20.11 | 1.213 | 17.64 | 5.849 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 3:55:32 | 20.05 | 1.214 | 17.64 | 5.85 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 4:00:32 | 20.04 | 1.214 | 17.64 | 5.848 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 4:05:32 | 20.02 | 1.214 | 17.64 | 5.844 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 4:10:32 | 20.01 | 1.214 | 17.64 | 5.84 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 4:15:32 | 20.02 | 1.214 | 17.64 | 5.838 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 4:20:32 | 20.03 | 1.214 | 17.63 | 5.835 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 4:25:32 | 20.05 | 1.214 | 17.64 | 5.839 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 4:30:32 | 20.03 | 1.214 | 17.64 | 5.84 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 4:35:32 | 20.05 | 1.214 | 17.63 | 5.835 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 4:40:32 | 20.01 | 1.214 | 17.63 | 5.835 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 4:45:32 | 20.01 | 1.214 | 17.64 | 5.838 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 4:50:32 | 20.06 | 1.214 | 17.64 | 5.836 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 4:55:32 | 20.03 | 1.215 | 17.64 | 5.836 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 5:00:32 | 20.03 | 1.215 | 17.64 | 5.839 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 5:05:32 | 20.07 | 1.214 | 17.63 | 5.835 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 5:10:32 | 20.04 | 1.214 | 17.64 | 5.838 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 5:15:32 | 20.04 | 1.214 | 17.64 | 5.837 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 5:20:32 | 20.06 | 1.214 | 17.63 | 5.834 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 5:25:32 | 20.11 | 1.214 | 17.64 | 5.837 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 5:30:32 | 20.06 | 1.214 | 17.64 | 5.837 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 5:35:32 | 20.09 | 1.214 | 17.64 | 5.838 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 5:40:32 | 20.08 | 1.214 | 17.63 | 5.836 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 5:45:32 | 20.07 | 1.214 | 17.63 | 5.831 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 5:50:32 | 20.04 | 1.215 | 17.63 | 5.833 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 5:55:32 | 20.03 | 1.215 | 17.63 | 5.833 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/19/2012 | 6:00:32 | 20.09 | 1.214 | 17.64 | 5.837 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 6:05:32 | 20.1 | 1.214 | 17.64 | 5.838 | 4.12 | 130.6 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 6:10:32 | 20.13 | 1.214 | 17.64 | 5.839 | 4.12 | 130.6 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 6:15:32 | 20.07 | 1.214 | 17.64 | 5.841 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 6:20:32 | 20.08 | 1.214 | 17.64 | 5.841 | 4.12 | 130.6 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 6:25:32 | 20.03 | 1.215 | 17.64 | 5.844 | 4.12 | 130.6 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 6:30:32 | 20.02 | 1.215 | 17.64 | 5.848 | 4.12 | 130.6 | -172 | 2.6 | 0.24 |
| 4/19/2012 | 6:35:32 | 20.02 | 1.215 | 17.64 | 5.849 | 4.12 | 130.6 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 6:40:32 | 20.04 | 1.214 | 17.64 | 5.851 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 6:45:32 | 20.02 | 1.214 | 17.64 | 5.85 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 6:50:32 | 20.07 | 1.215 | 17.64 | 5.849 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 6:55:32 | 20.06 | 1.214 | 17.64 | 5.851 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 7:00:32 | 20.08 | 1.215 | 17.64 | 5.845 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 7:05:32 | 20.06 | 1.215 | 17.64 | 5.849 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 7:10:32 | 20.04 | 1.215 | 17.64 | 5.852 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 7:15:32 | 20.04 | 1.215 | 17.64 | 5.853 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 7:20:32 | 20.03 | 1.216 | 17.64 | 5.858 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 7:25:32 | 20.02 | 1.215 | 17.65 | 5.86 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 7:30:32 | 20 | 1.215 | 17.65 | 5.863 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 7:35:32 | 20.01 | 1.215 | 17.65 | 5.871 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 7:40:32 | 20.05 | 1.216 | 17.65 | 5.868 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 7:45:32 | 20.07 | 1.216 | 17.65 | 5.87 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 7:50:32 | 20.04 | 1.216 | 17.65 | 5.871 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 7:55:32 | 20.01 | 1.216 | 17.65 | 5.875 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 8:00:32 | 20.01 | 1.215 | 17.65 | 5.873 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 8:05:32 | 20.02 | 1.216 | 17.65 | 5.875 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 8:10:32 | 20.06 | 1.214 | 17.65 | 5.873 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 8:15:32 | 20.03 | 1.216 | 17.65 | 5.872 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 8:20:32 | 20.05 | 1.216 | 17.65 | 5.873 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 8:25:32 | 20.02 | 1.215 | 17.65 | 5.873 | 4.12 | 130.6 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 8:30:32 | 20 | 1.215 | 17.65 | 5.871 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 8:35:32 | 20.01 | 1.215 | 17.65 | 5.873 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 8:40:32 | 20.02 | 1.215 | 17.65 | 5.873 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 8:45:32 | 20.02 | 1.215 | 17.65 | 5.874 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 8:50:32 | 20 | 1.215 | 17.65 | 5.873 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 8:55:32 | 20.05 | 1.214 | 17.65 | 5.875 | 4.12 | 130.6 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 9:00:32 | 20.05 | 1.215 | 17.65 | 5.877 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 9:05:32 | 20.02 | 1.215 | 17.65 | 5.879 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 9:10:32 | 20.03 | 1.214 | 17.65 | 5.877 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 9:15:32 | 20.08 | 1.214 | 17.65 | 5.879 | 4.12 | 130.6 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 9:20:32 | 20.09 | 1.214 | 17.65 | 5.879 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 9:25:32 | 20.03 | 1.215 | 17.65 | 5.874 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 9:30:32 | 20.09 | 1.214 | 17.65 | 5.875 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 9:35:32 | 20.05 | 1.215 | 17.65 | 5.872 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 9:40:32 | 20.02 | 1.215 | 17.65 | 5.875 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 9:45:32 | 20.01 | 1.215 | 17.65 | 5.88 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 9:50:32 | 20.09 | 1.214 | 17.65 | 5.878 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 9:55:32 | 20.08 | 1.214 | 17.65 | 5.88 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 10:00:32 | 20.08 | 1.215 | 17.66 | 5.882 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 10:05:32 | 20.06 | 1.214 | 17.65 | 5.882 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 10:10:32 | 20.03 | 1.215 | 17.66 | 5.882 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 10:15:32 | 20.14 | 1.212 | 17.66 | 5.883 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 10:20:32 | 20.14 | 1.212 | 17.66 | 5.884 | 4.12 | 130.6 | -171 | 2.6 | 0.23 |
| 4/19/2012 | 10:25:32 | 20.13 | 1.213 | 17.66 | 5.886 | 4.12 | 130.5 | -171 | 2.6 | 0.24 |
| 4/19/2012 | 10:30:32 | 20.1 | 1.213 | 17.66 | 5.883 | 4.12 | 130.5 | -172 | 2.6 | 0.24 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/19/2012 | 10:35:32 | 20.08 | 1.214 | 17.66 | 5.885 | 4.12 | 130.5 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 10:40:32 | 20.04 | 1.214 | 17.66 | 5.884 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 10:45:32 | 20.12 | 1.213 | 17.66 | 5.884 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 10:50:32 | 20.1 | 1.213 | 17.65 | 5.882 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 10:55:32 | 20.12 | 1.213 | 17.66 | 5.884 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 11:00:32 | 20.07 | 1.214 | 17.66 | 5.885 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 11:05:32 | 20.09 | 1.213 | 17.66 | 5.884 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 11:10:32 | 20.12 | 1.213 | 17.66 | 5.887 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 11:15:32 | 20.07 | 1.214 | 17.66 | 5.886 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 11:20:32 | 20.09 | 1.214 | 17.66 | 5.887 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 11:25:32 | 20.07 | 1.214 | 17.66 | 5.888 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 11:30:32 | 20.09 | 1.214 | 17.66 | 5.887 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 11:35:32 | 20.11 | 1.213 | 17.66 | 5.887 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 11:40:32 | 20.12 | 1.213 | 17.66 | 5.887 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 11:45:32 | 20.08 | 1.214 | 17.66 | 5.887 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 11:50:32 | 20.11 | 1.213 | 17.66 | 5.886 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 11:55:32 | 20.06 | 1.214 | 17.66 | 5.889 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 12:00:32 | 20.04 | 1.213 | 17.66 | 5.888 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 12:05:32 | 20.03 | 1.214 | 17.66 | 5.887 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 12:10:32 | 20.01 | 1.214 | 17.66 | 5.885 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 12:15:32 | 20.02 | 1.214 | 17.66 | 5.884 | 4.12 | 130.5 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 12:20:32 | 20.05 | 1.213 | 17.65 | 5.878 | 4.12 | 130.4 | -175 | 2.6 | 0.24 |
| 4/19/2012 | 12:25:32 | 20.04 | 1.214 | 17.65 | 5.877 | 4.12 | 130.5 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 12:30:32 | 20.03 | 1.214 | 17.65 | 5.868 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |
| 4/19/2012 | 12:35:32 | 20.06 | 1.212 | 17.65 | 5.865 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 12:40:32 | 20.1 | 1.212 | 17.65 | 5.864 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 12:45:32 | 20.08 | 1.213 | 17.65 | 5.865 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 12:50:32 | 20.11 | 1.212 | 17.65 | 5.862 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 12:55:32 | 20.09 | 1.213 | 17.65 | 5.86 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 13:00:32 | 20.06 | 1.214 | 17.65 | 5.863 | 4.12 | 130.4 | -174 | 2.6 | 0.24 |
| 4/19/2012 | 13:05:32 | 20.13 | 1.213 | 17.65 | 5.86 | 4.12 | 130.4 | -173 | 2.6 | 0.23 |
| 4/19/2012 | 13:10:32 | 20.11 | 1.213 | 17.65 | 5.859 | 4.12 | 130.4 | -173 | 2.6 | 0.24 |

VOPAK-8-MW-32

| Date | Time | Temp | SpCond | PressureA | Depth | pH | pHmV | ORP | ODO% | ODO Conc |
|---|---|---|---|---|---|---|---|---|---|---|
| M/D/Y | hh:mm:ss | C | mS/cm | psia | ft | | mV | mV | % | mg/L |
| 4/12/2012 | 13:55:33 | 23.46 | 0.006 | 14.83 | 1.571 | 6.8 | -20.5 | 112 | 90.4 | 7.69 |
| 4/12/2012 | 14:00:33 | 23.32 | 0.006 | 14.84 | 1.582 | 6.78 | -19.6 | 104 | 90.5 | 7.72 |
| 4/12/2012 | 14:05:33 | 23.36 | 0.006 | 14.84 | 1.581 | 6.77 | -19.2 | 113 | 90.7 | 7.73 |
| 4/12/2012 | 14:10:33 | 23.45 | 0.006 | 14.84 | 1.575 | 6.79 | -20.3 | 117 | 90.9 | 7.73 |
| 4/12/2012 | 14:15:33 | 23.55 | 0.006 | 14.83 | 1.575 | 6.82 | -21.7 | 118 | 91.1 | 7.74 |
| 4/12/2012 | 14:20:33 | 23.66 | 0.006 | 14.83 | 1.575 | 6.84 | -22.9 | 119 | 91.3 | 7.73 |
| 4/12/2012 | 14:25:33 | 23.77 | 0.006 | 14.84 | 1.598 | 6.86 | -23.8 | 119 | 91.4 | 7.73 |
| 4/12/2012 | 14:30:33 | 23.87 | 0.006 | 14.83 | 1.571 | 6.87 | -24.4 | 120 | 91.5 | 7.72 |
| 4/12/2012 | 14:35:33 | 23.96 | 0.006 | 14.83 | 1.567 | 6.87 | -24.7 | 121 | 91.6 | 7.72 |
| 4/12/2012 | 14:40:33 | 24.03 | 0.006 | 14.83 | 1.57 | 6.87 | -24.7 | 122 | 91.7 | 7.71 |
| 4/12/2012 | 14:45:33 | 24.09 | 0.006 | 14.83 | 1.565 | 6.87 | -24.6 | 122 | 91.7 | 7.71 |
| 4/12/2012 | 14:50:33 | 24.05 | 0.005 | 14.83 | 1.554 | 6.85 | -23.6 | 119 | 91.7 | 7.72 |
| 4/12/2012 | 14:55:33 | 23.89 | 0.005 | 14.83 | 1.557 | 6.8 | -20.9 | 121 | 91.7 | 7.74 |
| 4/12/2012 | 15:00:33 | 23.89 | 0.005 | 14.83 | 1.556 | 6.78 | -19.3 | 122 | 91.7 | 7.73 |
| 4/12/2012 | 15:05:33 | 24.02 | 0.005 | 14.83 | 1.555 | 6.77 | -19.1 | 121 | 91.7 | 7.71 |
| 4/12/2012 | 15:10:33 | 24.23 | 0.005 | 14.83 | 1.552 | 6.79 | -20.1 | 120 | 91.7 | 7.69 |
| 4/12/2012 | 15:15:33 | 24.49 | 0.005 | 14.82 | 1.548 | 6.83 | -22.3 | 118 | 91.9 | 7.67 |
| 4/12/2012 | 15:20:33 | 24.81 | 0.005 | 14.82 | 1.546 | 6.87 | -24.6 | 116 | 92.2 | 7.65 |
| 4/12/2012 | 15:25:33 | 25.15 | 0.005 | 14.82 | 1.544 | 6.91 | -27 | 114 | 92.6 | 7.63 |
| 4/12/2012 | 15:30:33 | 25.55 | 0.005 | 14.82 | 1.531 | 6.96 | -29.5 | 113 | 92.9 | 7.6 |
| 4/12/2012 | 15:35:33 | 25.95 | 0.005 | 14.82 | 1.548 | 7 | -31.9 | 112 | 93.2 | 7.57 |
| 4/12/2012 | 15:40:33 | 26.11 | 0.005 | 14.81 | 1.521 | 7.03 | -33.4 | 113 | 93.3 | 7.56 |
| 4/12/2012 | 15:45:33 | 26.01 | 0.005 | 14.81 | 1.529 | 7.03 | -33.8 | 116 | 93.6 | 7.59 |
| 4/12/2012 | 15:50:33 | 21.99 | 0.003 | 14.82 | 1.539 | 5.89 | 30.4 | 152 | 102.8 | 8.99 |
| 4/12/2012 | 15:55:33 | 21.46 | 1.223 | 17.94 | 8.763 | 5.15 | 72.3 | -21 | 20.6 | 1.82 |
| 4/12/2012 | 16:00:32 | 21.68 | 1.258 | 17.79 | 8.413 | 4.54 | 106.5 | -23 | 10.8 | 0.95 |
| 4/12/2012 | 16:05:32 | 21.62 | 1.267 | 17.76 | 8.333 | 4.54 | 106.6 | -52 | 8.7 | 0.76 |
| 4/12/2012 | 16:10:32 | 21.57 | 1.266 | 17.74 | 8.3 | 4.55 | 106.3 | -77 | 7.7 | 0.68 |
| 4/12/2012 | 16:15:33 | 21.53 | 1.266 | 17.74 | 8.287 | 4.55 | 106 | -93 | 7 | 0.61 |
| 4/12/2012 | 16:20:32 | 21.48 | 1.265 | 17.73 | 8.277 | 4.55 | 105.7 | -110 | 6.3 | 0.55 |
| 4/12/2012 | 16:25:33 | 21.45 | 1.264 | 17.73 | 8.273 | 4.56 | 105.6 | -115 | 5.4 | 0.47 |
| 4/12/2012 | 16:30:33 | 21.42 | 1.261 | 17.73 | 8.274 | 4.56 | 105.3 | -122 | 4.9 | 0.43 |
| 4/12/2012 | 16:35:33 | 21.4 | 1.258 | 17.73 | 8.274 | 4.57 | 104.9 | -123 | 4.7 | 0.41 |
| 4/12/2012 | 16:40:33 | 21.37 | 1.256 | 17.73 | 8.273 | 4.57 | 104.6 | -124 | 4.4 | 0.39 |
| 4/12/2012 | 16:45:33 | 21.35 | 1.254 | 17.73 | 8.274 | 4.57 | 104.6 | -122 | 4.2 | 0.37 |
| 4/12/2012 | 16:50:33 | 21.34 | 1.252 | 17.73 | 8.275 | 4.58 | 104.3 | -121 | 4.3 | 0.38 |
| 4/12/2012 | 16:55:33 | 21.32 | 1.25 | 17.73 | 8.276 | 4.58 | 104.4 | -123 | 4.2 | 0.37 |
| 4/12/2012 | 17:00:33 | 21.31 | 1.249 | 17.73 | 8.276 | 4.58 | 104.3 | -126 | 4.1 | 0.36 |
| 4/12/2012 | 17:05:33 | 21.3 | 1.248 | 17.73 | 8.275 | 4.58 | 104.3 | -123 | 3.8 | 0.33 |
| 4/12/2012 | 17:10:33 | 21.29 | 1.246 | 17.73 | 8.276 | 4.58 | 104.4 | -125 | 3.7 | 0.33 |
| 4/12/2012 | 17:15:33 | 21.28 | 1.245 | 17.73 | 8.274 | 4.58 | 104.3 | -128 | 3.7 | 0.32 |
| 4/12/2012 | 17:20:33 | 21.28 | 1.244 | 17.73 | 8.275 | 4.58 | 104.2 | -128 | 3.6 | 0.32 |
| 4/12/2012 | 17:25:33 | 21.27 | 1.243 | 17.73 | 8.275 | 4.58 | 104.3 | -129 | 3.6 | 0.31 |
| 4/12/2012 | 17:30:32 | 21.27 | 1.242 | 17.73 | 8.272 | 4.58 | 104.3 | -130 | 3.6 | 0.31 |
| 4/12/2012 | 17:35:33 | 21.26 | 1.242 | 17.73 | 8.269 | 4.58 | 104.3 | -131 | 3.5 | 0.31 |
| 4/12/2012 | 17:40:33 | 21.26 | 1.241 | 17.73 | 8.268 | 4.58 | 104.2 | -132 | 3.5 | 0.31 |
| 4/12/2012 | 17:45:33 | 21.25 | 1.24 | 17.73 | 8.268 | 4.58 | 104.1 | -133 | 3.5 | 0.31 |
| 4/12/2012 | 17:50:33 | 21.25 | 1.239 | 17.73 | 8.264 | 4.58 | 104 | -132 | 3.5 | 0.31 |
| 4/12/2012 | 17:55:33 | 21.25 | 1.239 | 17.73 | 8.263 | 4.59 | 103.8 | -131 | 3.5 | 0.31 |
| 4/12/2012 | 18:00:33 | 21.24 | 1.238 | 17.72 | 8.259 | 4.59 | 103.7 | -130 | 3.4 | 0.3 |
| 4/12/2012 | 18:05:33 | 21.24 | 1.237 | 17.72 | 8.257 | 4.59 | 103.6 | -129 | 3.4 | 0.3 |
| 4/12/2012 | 18:10:33 | 21.24 | 1.236 | 17.72 | 8.255 | 4.59 | 103.3 | -126 | 3.4 | 0.3 |
| 4/12/2012 | 18:15:33 | 21.24 | 1.236 | 17.72 | 8.251 | 4.6 | 103.1 | -128 | 3.4 | 0.3 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/12/2012 | 18:20:33 | 21.24 | 1.236 | 17.72 | 8.247 | 4.6 | 103 | -129 | 3.4 | 0.3 |
| 4/12/2012 | 18:25:33 | 21.24 | 1.235 | 17.72 | 8.246 | 4.6 | 102.8 | -128 | 3.4 | 0.3 |
| 4/12/2012 | 18:30:33 | 21.23 | 1.235 | 17.71 | 8.237 | 4.61 | 102.7 | -124 | 3.4 | 0.3 |
| 4/12/2012 | 18:35:33 | 21.23 | 1.234 | 17.71 | 8.233 | 4.61 | 102.6 | -127 | 3.4 | 0.3 |
| 4/12/2012 | 18:40:33 | 21.23 | 1.234 | 17.71 | 8.226 | 4.61 | 102.5 | -127 | 3.4 | 0.3 |
| 4/12/2012 | 18:45:33 | 21.23 | 1.233 | 17.71 | 8.219 | 4.61 | 102.4 | -130 | 3.4 | 0.3 |
| 4/12/2012 | 18:50:33 | 21.23 | 1.232 | 17.71 | 8.217 | 4.61 | 102.4 | -134 | 3.4 | 0.3 |
| 4/12/2012 | 18:55:33 | 21.23 | 1.232 | 17.7 | 8.213 | 4.61 | 102.4 | -136 | 3.4 | 0.3 |
| 4/12/2012 | 19:00:33 | 21.23 | 1.231 | 17.7 | 8.208 | 4.61 | 102.4 | -138 | 3.4 | 0.3 |
| 4/12/2012 | 19:05:33 | 21.22 | 1.23 | 17.7 | 8.207 | 4.61 | 102.4 | -138 | 3.4 | 0.3 |
| 4/12/2012 | 19:10:33 | 21.22 | 1.228 | 17.7 | 8.203 | 4.61 | 102.2 | -110 | 3.4 | 0.3 |
| 4/12/2012 | 19:15:33 | 21.22 | 1.227 | 17.7 | 8.199 | 4.61 | 102.2 | -122 | 3.4 | 0.3 |
| 4/12/2012 | 19:20:33 | 21.22 | 1.226 | 17.7 | 8.198 | 4.62 | 102.1 | -125 | 3.4 | 0.3 |
| 4/12/2012 | 19:25:33 | 21.22 | 1.224 | 17.7 | 8.193 | 4.62 | 102.1 | -116 | 3.4 | 0.3 |
| 4/12/2012 | 19:30:32 | 21.22 | 1.221 | 17.69 | 8.19 | 4.62 | 102 | -110 | 3.4 | 0.3 |
| 4/12/2012 | 19:35:32 | 21.22 | 1.22 | 17.69 | 8.187 | 4.62 | 101.7 | -106 | 3.4 | 0.3 |
| 4/12/2012 | 19:40:33 | 21.22 | 1.218 | 17.69 | 8.177 | 4.63 | 101.6 | -107 | 3.4 | 0.3 |
| 4/12/2012 | 19:45:33 | 21.22 | 1.217 | 17.69 | 8.173 | 4.63 | 101.5 | -104 | 3.4 | 0.3 |
| 4/12/2012 | 19:50:33 | 21.22 | 1.215 | 17.69 | 8.171 | 4.63 | 101.4 | -99 | 3.3 | 0.29 |
| 4/12/2012 | 19:55:33 | 21.22 | 1.214 | 17.68 | 8.166 | 4.63 | 101.1 | -96 | 3.3 | 0.29 |
| 4/12/2012 | 20:00:33 | 21.22 | 1.212 | 17.68 | 8.163 | 4.64 | 101 | -93 | 3.3 | 0.29 |
| 4/12/2012 | 20:05:33 | 21.22 | 1.209 | 17.68 | 8.161 | 4.64 | 100.9 | -91 | 3.3 | 0.29 |
| 4/12/2012 | 20:10:33 | 21.22 | 1.207 | 17.68 | 8.158 | 4.64 | 100.7 | -87 | 3.3 | 0.29 |
| 4/12/2012 | 20:15:33 | 21.22 | 1.203 | 17.68 | 8.155 | 4.64 | 100.6 | -90 | 3.3 | 0.29 |
| 4/12/2012 | 20:20:33 | 21.22 | 1.2 | 17.68 | 8.151 | 4.65 | 100.4 | -89 | 3.3 | 0.3 |
| 4/12/2012 | 20:25:33 | 21.22 | 1.198 | 17.68 | 8.148 | 4.65 | 100.2 | -83 | 3.3 | 0.29 |
| 4/12/2012 | 20:30:33 | 21.22 | 1.197 | 17.67 | 8.145 | 4.65 | 100.2 | -95 | 3.3 | 0.29 |
| 4/12/2012 | 20:35:33 | 21.22 | 1.19 | 17.67 | 8.14 | 4.65 | 100.2 | -106 | 3.3 | 0.29 |
| 4/12/2012 | 20:40:33 | 21.22 | 1.185 | 17.67 | 8.137 | 4.65 | 100.2 | -106 | 3.3 | 0.29 |
| 4/12/2012 | 20:45:33 | 21.21 | 1.182 | 17.67 | 8.135 | 4.65 | 100 | -110 | 3.3 | 0.3 |
| 4/12/2012 | 20:50:33 | 21.21 | 1.181 | 17.67 | 8.131 | 4.66 | 99.7 | -86 | 3.3 | 0.3 |
| 4/12/2012 | 20:55:33 | 21.21 | 1.179 | 17.67 | 8.128 | 4.66 | 99.7 | -89 | 3.3 | 0.3 |
| 4/12/2012 | 21:00:33 | 21.22 | 1.178 | 17.67 | 8.125 | 4.66 | 99.7 | -95 | 3.3 | 0.29 |
| 4/12/2012 | 21:05:33 | 21.21 | 1.176 | 17.67 | 8.123 | 4.66 | 99.5 | -100 | 3.3 | 0.29 |
| 4/12/2012 | 21:10:33 | 21.21 | 1.175 | 17.66 | 8.12 | 4.66 | 99.5 | -102 | 3.3 | 0.29 |
| 4/12/2012 | 21:15:33 | 21.21 | 1.174 | 17.66 | 8.117 | 4.66 | 99.4 | -89 | 3.3 | 0.29 |
| 4/12/2012 | 21:20:33 | 21.21 | 1.173 | 17.66 | 8.113 | 4.66 | 99.4 | -103 | 3.3 | 0.29 |
| 4/12/2012 | 21:25:33 | 21.21 | 1.173 | 17.66 | 8.111 | 4.66 | 99.4 | -108 | 3.3 | 0.29 |
| 4/12/2012 | 21:30:33 | 21.21 | 1.172 | 17.66 | 8.109 | 4.66 | 99.4 | -106 | 3.3 | 0.29 |
| 4/12/2012 | 21:35:33 | 21.21 | 1.171 | 17.66 | 8.107 | 4.66 | 99.4 | -111 | 3.3 | 0.29 |
| 4/12/2012 | 21:40:33 | 21.21 | 1.171 | 17.66 | 8.104 | 4.67 | 99.2 | -116 | 3.3 | 0.29 |
| 4/12/2012 | 21:45:33 | 21.21 | 1.172 | 17.66 | 8.103 | 4.67 | 99.1 | -120 | 3.3 | 0.29 |
| 4/12/2012 | 21:50:33 | 21.21 | 1.171 | 17.66 | 8.103 | 4.67 | 98.9 | -124 | 3.3 | 0.29 |
| 4/12/2012 | 21:55:33 | 21.21 | 1.171 | 17.66 | 8.102 | 4.67 | 98.8 | -126 | 3.3 | 0.29 |
| 4/12/2012 | 22:00:33 | 21.21 | 1.17 | 17.66 | 8.1 | 4.68 | 98.6 | -124 | 3.3 | 0.29 |
| 4/12/2012 | 22:05:33 | 21.21 | 1.17 | 17.65 | 8.099 | 4.68 | 98.4 | -124 | 3.3 | 0.29 |
| 4/12/2012 | 22:10:33 | 21.21 | 1.17 | 17.65 | 8.097 | 4.68 | 98.3 | -126 | 3.3 | 0.29 |
| 4/12/2012 | 22:15:33 | 21.21 | 1.17 | 17.65 | 8.095 | 4.68 | 98.2 | -127 | 3.3 | 0.29 |
| 4/12/2012 | 22:20:33 | 21.21 | 1.17 | 17.65 | 8.093 | 4.69 | 98.1 | -129 | 3.3 | 0.29 |
| 4/12/2012 | 22:25:33 | 21.21 | 1.169 | 17.65 | 8.092 | 4.69 | 98 | -133 | 3.3 | 0.29 |
| 4/12/2012 | 22:30:33 | 21.21 | 1.169 | 17.65 | 8.09 | 4.69 | 97.9 | -138 | 3.3 | 0.29 |
| 4/12/2012 | 22:35:33 | 21.21 | 1.168 | 17.65 | 8.088 | 4.69 | 97.7 | -139 | 3.2 | 0.29 |
| 4/12/2012 | 22:40:33 | 21.21 | 1.168 | 17.65 | 8.088 | 4.7 | 97.5 | -140 | 3.2 | 0.29 |
| 4/12/2012 | 22:45:33 | 21.21 | 1.168 | 17.65 | 8.087 | 4.7 | 97.4 | -144 | 3.2 | 0.29 |
| 4/12/2012 | 22:50:33 | 21.21 | 1.169 | 17.65 | 8.086 | 4.7 | 97.3 | -145 | 3.2 | 0.29 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/12/2012 | 22:55:33 | 21.21 | 1.169 | 17.65 | 8.084 | 4.7 | 97.2 | -144 | 3.2 | 0.29 |
| 4/12/2012 | 23:00:33 | 21.21 | 1.169 | 17.65 | 8.084 | 4.7 | 97.2 | -141 | 3.2 | 0.28 |
| 4/12/2012 | 23:05:33 | 21.21 | 1.168 | 17.65 | 8.083 | 4.7 | 97.2 | -144 | 3.2 | 0.28 |
| 4/12/2012 | 23:10:33 | 21.21 | 1.165 | 17.65 | 8.083 | 4.7 | 97.6 | -145 | 3.2 | 0.28 |
| 4/12/2012 | 23:15:33 | 21.21 | 1.164 | 17.65 | 8.082 | 4.69 | 97.8 | -148 | 3.2 | 0.28 |
| 4/12/2012 | 23:20:33 | 21.21 | 1.164 | 17.65 | 8.08 | 4.69 | 97.8 | -146 | 3.2 | 0.28 |
| 4/12/2012 | 23:25:33 | 21.21 | 1.163 | 17.65 | 8.083 | 4.69 | 97.7 | -144 | 3.2 | 0.28 |
| 4/12/2012 | 23:30:33 | 21.21 | 1.163 | 17.65 | 8.082 | 4.69 | 97.8 | -144 | 3.2 | 0.28 |
| 4/12/2012 | 23:35:33 | 21.21 | 1.163 | 17.65 | 8.082 | 4.69 | 98 | -146 | 3.2 | 0.28 |
| 4/12/2012 | 23:40:33 | 21.21 | 1.162 | 17.65 | 8.083 | 4.69 | 97.9 | -147 | 3.2 | 0.28 |
| 4/12/2012 | 23:45:33 | 21.21 | 1.162 | 17.65 | 8.082 | 4.69 | 97.9 | -147 | 3.2 | 0.28 |
| 4/12/2012 | 23:50:33 | 21.21 | 1.161 | 17.65 | 8.082 | 4.69 | 97.8 | -149 | 3.1 | 0.28 |
| 4/12/2012 | 23:55:33 | 21.21 | 1.161 | 17.65 | 8.084 | 4.69 | 97.7 | -143 | 3.1 | 0.28 |
| 4/13/2012 | 0:00:33 | 21.21 | 1.161 | 17.65 | 8.082 | 4.7 | 97.6 | -143 | 3.1 | 0.28 |
| 4/13/2012 | 0:05:33 | 21.21 | 1.161 | 17.65 | 8.083 | 4.7 | 97.5 | -143 | 3.1 | 0.28 |
| 4/13/2012 | 0:10:33 | 21.21 | 1.16 | 17.65 | 8.084 | 4.7 | 97.4 | -142 | 3.1 | 0.28 |
| 4/13/2012 | 0:15:33 | 21.21 | 1.16 | 17.65 | 8.083 | 4.7 | 97.4 | -146 | 3.1 | 0.28 |
| 4/13/2012 | 0:20:33 | 21.21 | 1.161 | 17.65 | 8.083 | 4.7 | 97.1 | -144 | 3.1 | 0.28 |
| 4/13/2012 | 0:25:33 | 21.21 | 1.16 | 17.65 | 8.085 | 4.71 | 97 | -145 | 3.1 | 0.28 |
| 4/13/2012 | 0:30:33 | 21.21 | 1.16 | 17.65 | 8.085 | 4.71 | 96.7 | -147 | 3.1 | 0.28 |
| 4/13/2012 | 0:35:33 | 21.22 | 1.16 | 17.65 | 8.088 | 4.71 | 96.6 | -147 | 3.1 | 0.28 |
| 4/13/2012 | 0:40:33 | 21.21 | 1.159 | 17.65 | 8.088 | 4.71 | 96.6 | -138 | 3.1 | 0.27 |
| 4/13/2012 | 0:45:33 | 21.22 | 1.16 | 17.65 | 8.091 | 4.71 | 96.6 | -141 | 3.1 | 0.27 |
| 4/13/2012 | 0:50:33 | 21.22 | 1.159 | 17.65 | 8.092 | 4.71 | 96.7 | -120 | 3.1 | 0.27 |
| 4/13/2012 | 0:55:33 | 21.22 | 1.159 | 17.65 | 8.093 | 4.71 | 96.6 | -120 | 3.1 | 0.27 |
| 4/13/2012 | 1:00:33 | 21.22 | 1.159 | 17.65 | 8.094 | 4.72 | 96.5 | -126 | 3.1 | 0.27 |
| 4/13/2012 | 1:05:33 | 21.21 | 1.159 | 17.65 | 8.096 | 4.71 | 96.5 | -131 | 3.1 | 0.27 |
| 4/13/2012 | 1:10:33 | 21.22 | 1.159 | 17.65 | 8.099 | 4.72 | 96.4 | -129 | 3.1 | 0.27 |
| 4/13/2012 | 1:15:33 | 21.22 | 1.159 | 17.66 | 8.101 | 4.72 | 96.5 | -129 | 3.1 | 0.27 |
| 4/13/2012 | 1:20:33 | 21.22 | 1.159 | 17.66 | 8.103 | 4.72 | 96.4 | -139 | 3.1 | 0.27 |
| 4/13/2012 | 1:25:33 | 21.22 | 1.159 | 17.66 | 8.106 | 4.72 | 96.4 | -143 | 3.1 | 0.27 |
| 4/13/2012 | 1:30:33 | 21.22 | 1.159 | 17.66 | 8.107 | 4.72 | 96.4 | -140 | 3.1 | 0.27 |
| 4/13/2012 | 1:35:33 | 21.22 | 1.159 | 17.66 | 8.112 | 4.71 | 96.6 | -131 | 3.1 | 0.27 |
| 4/13/2012 | 1:40:33 | 21.22 | 1.159 | 17.66 | 8.113 | 4.71 | 96.6 | -138 | 3.1 | 0.27 |
| 4/13/2012 | 1:45:33 | 21.22 | 1.159 | 17.66 | 8.117 | 4.71 | 96.6 | -139 | 3.1 | 0.27 |
| 4/13/2012 | 1:50:33 | 21.22 | 1.16 | 17.66 | 8.121 | 4.71 | 96.6 | -140 | 3.1 | 0.27 |
| 4/13/2012 | 1:55:33 | 21.22 | 1.16 | 17.67 | 8.123 | 4.71 | 96.6 | -141 | 3.1 | 0.27 |
| 4/13/2012 | 2:00:33 | 21.22 | 1.16 | 17.67 | 8.127 | 4.72 | 96.5 | -141 | 3.1 | 0.27 |
| 4/13/2012 | 2:05:33 | 21.22 | 1.16 | 17.67 | 8.127 | 4.71 | 96.6 | -144 | 3.1 | 0.27 |
| 4/13/2012 | 2:10:33 | 21.22 | 1.16 | 17.67 | 8.132 | 4.71 | 96.6 | -148 | 3.1 | 0.27 |
| 4/13/2012 | 2:15:33 | 21.22 | 1.161 | 17.67 | 8.136 | 4.71 | 96.6 | -154 | 3.1 | 0.27 |
| 4/13/2012 | 2:20:33 | 21.22 | 1.162 | 17.67 | 8.139 | 4.71 | 96.7 | -161 | 3 | 0.27 |
| 4/13/2012 | 2:25:33 | 21.22 | 1.161 | 17.67 | 8.142 | 4.71 | 96.7 | -154 | 3.1 | 0.27 |
| 4/13/2012 | 2:30:33 | 21.22 | 1.162 | 17.67 | 8.145 | 4.71 | 96.8 | -157 | 3.1 | 0.27 |
| 4/13/2012 | 2:35:33 | 21.22 | 1.162 | 17.68 | 8.149 | 4.71 | 96.7 | -159 | 3.1 | 0.27 |
| 4/13/2012 | 2:40:33 | 21.22 | 1.163 | 17.68 | 8.153 | 4.71 | 96.9 | -152 | 3.1 | 0.27 |
| 4/13/2012 | 2:45:33 | 21.22 | 1.164 | 17.68 | 8.156 | 4.71 | 96.9 | -151 | 3.1 | 0.27 |
| 4/13/2012 | 2:50:33 | 21.22 | 1.164 | 17.68 | 8.16 | 4.71 | 96.9 | -155 | 3 | 0.27 |
| 4/13/2012 | 2:55:33 | 21.22 | 1.164 | 17.68 | 8.165 | 4.71 | 96.9 | -152 | 3.1 | 0.27 |
| 4/13/2012 | 3:00:33 | 21.22 | 1.165 | 17.69 | 8.17 | 4.71 | 96.8 | -150 | 3 | 0.27 |
| 4/13/2012 | 3:05:33 | 21.22 | 1.166 | 17.69 | 8.171 | 4.71 | 96.9 | -149 | 3 | 0.27 |
| 4/13/2012 | 3:10:33 | 21.22 | 1.167 | 17.69 | 8.176 | 4.7 | 97.3 | -156 | 3 | 0.27 |
| 4/13/2012 | 3:15:33 | 21.22 | 1.167 | 17.69 | 8.182 | 4.69 | 97.7 | -159 | 3 | 0.27 |
| 4/13/2012 | 3:20:33 | 21.22 | 1.167 | 17.69 | 8.187 | 4.69 | 97.9 | -157 | 3 | 0.27 |
| 4/13/2012 | 3:25:33 | 21.22 | 1.168 | 17.69 | 8.191 | 4.69 | 98.1 | -156 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 3:30:33 | 21.22 | 1.168 | 17.7 | 8.194 | 4.68 | 98.3 | -160 | 3 | 0.27 |
| 4/13/2012 | 3:35:33 | 21.22 | 1.169 | 17.7 | 8.196 | 4.68 | 98.6 | -162 | 3 | 0.27 |
| 4/13/2012 | 3:40:33 | 21.22 | 1.17 | 17.7 | 8.204 | 4.68 | 98.7 | -164 | 3 | 0.27 |
| 4/13/2012 | 3:45:33 | 21.22 | 1.17 | 17.7 | 8.212 | 4.68 | 98.6 | -158 | 3 | 0.27 |
| 4/13/2012 | 3:50:33 | 21.22 | 1.171 | 17.71 | 8.215 | 4.68 | 98.6 | -160 | 3 | 0.27 |
| 4/13/2012 | 3:55:33 | 21.22 | 1.171 | 17.71 | 8.22 | 4.68 | 98.7 | -161 | 3 | 0.27 |
| 4/13/2012 | 4:00:33 | 21.22 | 1.172 | 17.71 | 8.225 | 4.67 | 99 | -160 | 3 | 0.27 |
| 4/13/2012 | 4:05:33 | 21.22 | 1.171 | 17.71 | 8.23 | 4.67 | 99.1 | -156 | 3 | 0.27 |
| 4/13/2012 | 4:10:33 | 21.22 | 1.172 | 17.71 | 8.237 | 4.67 | 99.2 | -157 | 3 | 0.27 |
| 4/13/2012 | 4:15:33 | 21.22 | 1.173 | 17.72 | 8.244 | 4.67 | 99.1 | -157 | 3 | 0.27 |
| 4/13/2012 | 4:20:33 | 21.22 | 1.175 | 17.72 | 8.25 | 4.68 | 98.7 | -166 | 3 | 0.27 |
| 4/13/2012 | 4:25:33 | 21.22 | 1.177 | 17.72 | 8.257 | 4.68 | 98.3 | -168 | 3 | 0.27 |
| 4/13/2012 | 4:30:33 | 21.22 | 1.177 | 17.73 | 8.263 | 4.68 | 98.3 | -167 | 3 | 0.27 |
| 4/13/2012 | 4:35:33 | 21.22 | 1.177 | 17.73 | 8.268 | 4.68 | 98.8 | -163 | 3 | 0.27 |
| 4/13/2012 | 4:40:33 | 21.22 | 1.179 | 17.73 | 8.274 | 4.67 | 99.2 | -166 | 3 | 0.27 |
| 4/13/2012 | 4:45:33 | 21.22 | 1.18 | 17.73 | 8.279 | 4.66 | 99.4 | -165 | 3 | 0.27 |
| 4/13/2012 | 4:50:33 | 21.22 | 1.18 | 17.73 | 8.284 | 4.66 | 99.5 | -150 | 3 | 0.27 |
| 4/13/2012 | 4:55:33 | 21.22 | 1.181 | 17.74 | 8.288 | 4.66 | 99.7 | -160 | 3 | 0.27 |
| 4/13/2012 | 5:00:33 | 21.22 | 1.182 | 17.74 | 8.293 | 4.66 | 99.5 | -166 | 3 | 0.27 |
| 4/13/2012 | 5:05:33 | 21.22 | 1.183 | 17.74 | 8.299 | 4.67 | 99.1 | -169 | 3 | 0.27 |
| 4/13/2012 | 5:10:33 | 21.22 | 1.183 | 17.74 | 8.303 | 4.67 | 98.9 | -169 | 3 | 0.27 |
| 4/13/2012 | 5:15:33 | 21.22 | 1.184 | 17.75 | 8.308 | 4.67 | 99 | -160 | 3.1 | 0.27 |
| 4/13/2012 | 5:20:33 | 21.22 | 1.184 | 17.75 | 8.312 | 4.66 | 99.6 | -172 | 3 | 0.27 |
| 4/13/2012 | 5:25:33 | 21.22 | 1.185 | 17.75 | 8.312 | 4.65 | 99.9 | -172 | 3 | 0.27 |
| 4/13/2012 | 5:30:33 | 21.22 | 1.186 | 17.75 | 8.316 | 4.66 | 99.8 | -176 | 3 | 0.27 |
| 4/13/2012 | 5:35:33 | 21.22 | 1.187 | 17.75 | 8.32 | 4.66 | 99.6 | -174 | 3.1 | 0.27 |
| 4/13/2012 | 5:40:33 | 21.22 | 1.188 | 17.75 | 8.323 | 4.66 | 99.5 | -175 | 3.1 | 0.27 |
| 4/13/2012 | 5:45:33 | 21.22 | 1.188 | 17.75 | 8.322 | 4.66 | 99.7 | -173 | 3 | 0.27 |
| 4/13/2012 | 5:50:33 | 21.22 | 1.189 | 17.75 | 8.324 | 4.65 | 100.1 | -174 | 3 | 0.27 |
| 4/13/2012 | 5:55:33 | 21.22 | 1.19 | 17.75 | 8.325 | 4.65 | 100.3 | -173 | 3 | 0.27 |
| 4/13/2012 | 6:00:33 | 21.22 | 1.191 | 17.75 | 8.327 | 4.65 | 100.3 | -173 | 3 | 0.27 |
| 4/13/2012 | 6:05:33 | 21.22 | 1.191 | 17.75 | 8.327 | 4.65 | 100.3 | -174 | 3.1 | 0.27 |
| 4/13/2012 | 6:10:33 | 21.22 | 1.192 | 17.75 | 8.327 | 4.65 | 100.3 | -175 | 3 | 0.27 |
| 4/13/2012 | 6:15:33 | 21.22 | 1.192 | 17.75 | 8.326 | 4.65 | 100.3 | -173 | 3.1 | 0.27 |
| 4/13/2012 | 6:20:33 | 21.22 | 1.193 | 17.75 | 8.324 | 4.64 | 100.5 | -177 | 3 | 0.27 |
| 4/13/2012 | 6:25:33 | 21.22 | 1.194 | 17.75 | 8.324 | 4.64 | 100.6 | -177 | 3 | 0.27 |
| 4/13/2012 | 6:30:33 | 21.22 | 1.195 | 17.75 | 8.322 | 4.64 | 100.8 | -175 | 3 | 0.27 |
| 4/13/2012 | 6:35:33 | 21.22 | 1.195 | 17.75 | 8.32 | 4.64 | 100.9 | -173 | 3 | 0.27 |
| 4/13/2012 | 6:40:33 | 21.22 | 1.196 | 17.75 | 8.319 | 4.64 | 101 | -173 | 3 | 0.27 |
| 4/13/2012 | 6:45:33 | 21.22 | 1.197 | 17.75 | 8.317 | 4.64 | 101 | -169 | 3 | 0.27 |
| 4/13/2012 | 6:50:33 | 21.22 | 1.198 | 17.75 | 8.314 | 4.64 | 101 | -171 | 3 | 0.27 |
| 4/13/2012 | 6:55:33 | 21.22 | 1.199 | 17.75 | 8.312 | 4.64 | 101 | -170 | 3 | 0.27 |
| 4/13/2012 | 7:00:33 | 21.22 | 1.199 | 17.74 | 8.306 | 4.64 | 101 | -169 | 3 | 0.27 |
| 4/13/2012 | 7:05:33 | 21.22 | 1.199 | 17.74 | 8.304 | 4.64 | 101 | -160 | 3 | 0.27 |
| 4/13/2012 | 7:10:33 | 21.22 | 1.2 | 17.74 | 8.302 | 4.64 | 100.9 | -172 | 3 | 0.27 |
| 4/13/2012 | 7:15:33 | 21.22 | 1.201 | 17.74 | 8.298 | 4.64 | 101 | -172 | 3 | 0.27 |
| 4/13/2012 | 7:20:33 | 21.22 | 1.202 | 17.74 | 8.292 | 4.64 | 101 | -177 | 3.1 | 0.27 |
| 4/13/2012 | 7:25:33 | 21.22 | 1.203 | 17.74 | 8.289 | 4.64 | 101 | -177 | 3 | 0.27 |
| 4/13/2012 | 7:30:33 | 21.22 | 1.203 | 17.74 | 8.285 | 4.64 | 101 | -173 | 3.1 | 0.27 |
| 4/13/2012 | 7:35:33 | 21.22 | 1.205 | 17.73 | 8.282 | 4.64 | 100.8 | -170 | 3 | 0.27 |
| 4/13/2012 | 7:40:33 | 21.22 | 1.205 | 17.73 | 8.278 | 4.64 | 100.8 | -169 | 3 | 0.27 |
| 4/13/2012 | 7:45:33 | 21.22 | 1.206 | 17.73 | 8.273 | 4.64 | 100.6 | -173 | 3 | 0.27 |
| 4/13/2012 | 7:50:33 | 21.22 | 1.207 | 17.73 | 8.27 | 4.64 | 100.6 | -176 | 3 | 0.27 |
| 4/13/2012 | 7:55:33 | 21.22 | 1.208 | 17.73 | 8.267 | 4.64 | 100.6 | -178 | 3 | 0.27 |
| 4/13/2012 | 8:00:33 | 21.22 | 1.208 | 17.73 | 8.261 | 4.64 | 100.6 | -183 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 8:05:33 | 21.22 | 1.209 | 17.72 | 8.257 | 4.64 | 100.5 | -182 | 3 | 0.27 |
| 4/13/2012 | 8:10:33 | 21.22 | 1.21 | 17.72 | 8.253 | 4.64 | 100.5 | -177 | 3 | 0.27 |
| 4/13/2012 | 8:15:33 | 21.22 | 1.211 | 17.72 | 8.249 | 4.64 | 100.5 | -170 | 3 | 0.27 |
| 4/13/2012 | 8:20:33 | 21.22 | 1.212 | 17.72 | 8.244 | 4.64 | 100.6 | -173 | 3 | 0.27 |
| 4/13/2012 | 8:25:33 | 21.22 | 1.213 | 17.72 | 8.242 | 4.64 | 100.5 | -175 | 3 | 0.27 |
| 4/13/2012 | 8:30:33 | 21.22 | 1.213 | 17.71 | 8.238 | 4.65 | 100.3 | -178 | 3 | 0.27 |
| 4/13/2012 | 8:35:33 | 21.22 | 1.214 | 17.71 | 8.234 | 4.65 | 100.3 | -175 | 3 | 0.27 |
| 4/13/2012 | 8:40:33 | 21.22 | 1.214 | 17.71 | 8.232 | 4.65 | 100.4 | -181 | 3 | 0.27 |
| 4/13/2012 | 8:45:33 | 21.22 | 1.215 | 17.71 | 8.227 | 4.65 | 100.4 | -179 | 3 | 0.27 |
| 4/13/2012 | 8:50:33 | 21.22 | 1.216 | 17.71 | 8.224 | 4.65 | 100.5 | -184 | 3 | 0.27 |
| 4/13/2012 | 8:55:33 | 21.22 | 1.216 | 17.71 | 8.22 | 4.65 | 100.4 | -177 | 3 | 0.27 |
| 4/13/2012 | 9:00:33 | 21.22 | 1.217 | 17.71 | 8.217 | 4.65 | 100.3 | -178 | 3 | 0.27 |
| 4/13/2012 | 9:05:33 | 21.22 | 1.217 | 17.7 | 8.212 | 4.65 | 100.3 | -188 | 3 | 0.27 |
| 4/13/2012 | 9:10:33 | 21.22 | 1.217 | 17.7 | 8.208 | 4.65 | 100.2 | -189 | 3 | 0.27 |
| 4/13/2012 | 9:15:33 | 21.22 | 1.218 | 17.7 | 8.206 | 4.65 | 100.2 | -188 | 3 | 0.27 |
| 4/13/2012 | 9:20:33 | 21.23 | 1.219 | 17.7 | 8.203 | 4.65 | 100 | -188 | 3 | 0.27 |
| 4/13/2012 | 9:25:33 | 21.23 | 1.22 | 17.7 | 8.199 | 4.65 | 99.9 | -187 | 3 | 0.27 |
| 4/13/2012 | 9:30:33 | 21.23 | 1.221 | 17.7 | 8.199 | 4.65 | 99.9 | -177 | 3 | 0.27 |
| 4/13/2012 | 9:35:33 | 21.23 | 1.222 | 17.7 | 8.194 | 4.65 | 99.9 | -180 | 3 | 0.27 |
| 4/13/2012 | 9:40:33 | 21.23 | 1.222 | 17.7 | 8.193 | 4.66 | 99.9 | -180 | 3 | 0.27 |
| 4/13/2012 | 9:45:33 | 21.23 | 1.223 | 17.69 | 8.19 | 4.66 | 99.9 | -164 | 3 | 0.27 |
| 4/13/2012 | 9:50:33 | 21.23 | 1.223 | 17.69 | 8.188 | 4.66 | 99.7 | -173 | 3 | 0.27 |
| 4/13/2012 | 9:55:33 | 21.23 | 1.224 | 17.69 | 8.182 | 4.66 | 99.6 | -169 | 3 | 0.27 |
| 4/13/2012 | 10:00:33 | 21.23 | 1.224 | 17.69 | 8.181 | 4.66 | 99.4 | -161 | 3 | 0.27 |
| 4/13/2012 | 10:05:33 | 21.23 | 1.225 | 17.69 | 8.18 | 4.66 | 99.4 | -164 | 3 | 0.27 |
| 4/13/2012 | 10:10:33 | 21.23 | 1.226 | 17.69 | 8.176 | 4.67 | 99.2 | -164 | 3 | 0.27 |
| 4/13/2012 | 10:15:33 | 21.23 | 1.226 | 17.69 | 8.176 | 4.67 | 99.1 | -162 | 3 | 0.27 |
| 4/13/2012 | 10:20:33 | 21.23 | 1.227 | 17.69 | 8.174 | 4.67 | 99.2 | -167 | 3 | 0.27 |
| 4/13/2012 | 10:25:33 | 21.23 | 1.227 | 17.69 | 8.171 | 4.67 | 99.1 | -167 | 3 | 0.27 |
| 4/13/2012 | 10:30:33 | 21.23 | 1.227 | 17.69 | 8.17 | 4.67 | 99.1 | -168 | 3 | 0.27 |
| 4/13/2012 | 10:35:33 | 21.23 | 1.227 | 17.68 | 8.168 | 4.67 | 98.9 | -167 | 3 | 0.27 |
| 4/13/2012 | 10:40:33 | 21.23 | 1.227 | 17.68 | 8.167 | 4.68 | 98.6 | -158 | 3 | 0.27 |
| 4/13/2012 | 10:45:33 | 21.23 | 1.227 | 17.68 | 8.166 | 4.68 | 98.6 | -153 | 3 | 0.27 |
| 4/13/2012 | 10:50:33 | 21.23 | 1.226 | 17.68 | 8.165 | 4.68 | 98.4 | -156 | 3 | 0.27 |
| 4/13/2012 | 10:55:33 | 21.23 | 1.226 | 17.68 | 8.165 | 4.69 | 98.2 | -153 | 3 | 0.27 |
| 4/13/2012 | 11:00:33 | 21.23 | 1.227 | 17.68 | 8.161 | 4.69 | 97.8 | -145 | 3 | 0.27 |
| 4/13/2012 | 11:05:33 | 21.23 | 1.226 | 17.68 | 8.159 | 4.7 | 97.6 | -145 | 3 | 0.27 |
| 4/13/2012 | 11:10:33 | 21.23 | 1.226 | 17.68 | 8.157 | 4.7 | 97.4 | -151 | 3 | 0.27 |
| 4/13/2012 | 11:15:33 | 21.23 | 1.225 | 17.68 | 8.154 | 4.7 | 97.4 | -155 | 3 | 0.27 |
| 4/13/2012 | 11:20:33 | 21.23 | 1.226 | 17.68 | 8.153 | 4.7 | 97.5 | -155 | 3 | 0.27 |
| 4/13/2012 | 11:25:33 | 21.23 | 1.225 | 17.68 | 8.153 | 4.7 | 97.6 | -157 | 3 | 0.27 |
| 4/13/2012 | 11:30:33 | 21.23 | 1.224 | 17.68 | 8.15 | 4.7 | 97.1 | -145 | 3 | 0.27 |
| 4/13/2012 | 11:35:33 | 21.23 | 1.224 | 17.68 | 8.149 | 4.7 | 97.1 | -146 | 3 | 0.27 |
| 4/13/2012 | 11:40:33 | 21.23 | 1.224 | 17.68 | 8.149 | 4.71 | 97 | -152 | 3 | 0.27 |
| 4/13/2012 | 11:45:33 | 21.23 | 1.224 | 17.68 | 8.148 | 4.71 | 97 | -153 | 3 | 0.27 |
| 4/13/2012 | 11:50:33 | 21.23 | 1.224 | 17.67 | 8.146 | 4.71 | 96.9 | -151 | 3 | 0.27 |
| 4/13/2012 | 11:55:33 | 21.23 | 1.224 | 17.67 | 8.143 | 4.7 | 97.2 | -155 | 3 | 0.27 |
| 4/13/2012 | 12:00:33 | 21.23 | 1.224 | 17.67 | 8.141 | 4.7 | 97.3 | -160 | 3 | 0.27 |
| 4/13/2012 | 12:05:33 | 21.23 | 1.223 | 17.67 | 8.139 | 4.7 | 97.4 | -164 | 3 | 0.27 |
| 4/13/2012 | 12:10:33 | 21.23 | 1.223 | 17.67 | 8.14 | 4.7 | 97.5 | -169 | 3 | 0.27 |
| 4/13/2012 | 12:15:33 | 21.23 | 1.223 | 17.67 | 8.136 | 4.7 | 97.5 | -168 | 3 | 0.27 |
| 4/13/2012 | 12:20:33 | 21.23 | 1.223 | 17.67 | 8.136 | 4.7 | 97.5 | -169 | 3 | 0.27 |
| 4/13/2012 | 12:25:33 | 21.23 | 1.223 | 17.67 | 8.134 | 4.7 | 97.5 | -165 | 3 | 0.27 |
| 4/13/2012 | 12:30:33 | 21.23 | 1.224 | 17.68 | 8.158 | 4.7 | 97.6 | -168 | 3 | 0.27 |
| 4/13/2012 | 12:35:33 | 21.23 | 1.224 | 17.69 | 8.181 | 4.69 | 97.7 | -176 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 12:40:33 | 21.23 | 1.224 | 17.7 | 8.197 | 4.69 | 97.8 | -185 | 3 | 0.27 |
| 4/13/2012 | 12:45:33 | 21.23 | 1.223 | 17.72 | 8.239 | 4.69 | 97.9 | -189 | 3 | 0.27 |
| 4/13/2012 | 12:50:33 | 21.23 | 1.223 | 17.71 | 8.233 | 4.69 | 98 | -194 | 3 | 0.27 |
| 4/13/2012 | 12:55:33 | 21.23 | 1.223 | 17.71 | 8.22 | 4.69 | 97.8 | -187 | 3 | 0.27 |
| 4/13/2012 | 13:00:33 | 21.23 | 1.223 | 17.7 | 8.21 | 4.7 | 97.5 | -174 | 3 | 0.27 |
| 4/13/2012 | 13:05:33 | 21.23 | 1.224 | 17.7 | 8.2 | 4.7 | 97.3 | -166 | 3 | 0.27 |
| 4/13/2012 | 13:10:33 | 21.23 | 1.224 | 17.7 | 8.194 | 4.7 | 97.3 | -169 | 3 | 0.27 |
| 4/13/2012 | 13:15:33 | 21.23 | 1.225 | 17.69 | 8.188 | 4.7 | 97.4 | -168 | 3 | 0.27 |
| 4/13/2012 | 13:20:33 | 21.23 | 1.225 | 17.69 | 8.18 | 4.7 | 97.5 | -171 | 3 | 0.27 |
| 4/13/2012 | 13:25:33 | 21.23 | 1.226 | 17.67 | 8.145 | 4.7 | 97.4 | -174 | 3 | 0.27 |
| 4/13/2012 | 13:30:33 | 21.23 | 1.225 | 17.67 | 8.131 | 4.7 | 97.5 | -172 | 3 | 0.27 |
| 4/13/2012 | 13:35:33 | 21.23 | 1.225 | 17.67 | 8.125 | 4.7 | 97.5 | -174 | 3 | 0.27 |
| 4/13/2012 | 13:40:33 | 21.23 | 1.225 | 17.67 | 8.125 | 4.7 | 97.7 | -180 | 3 | 0.27 |
| 4/13/2012 | 13:45:33 | 21.23 | 1.225 | 17.67 | 8.126 | 4.69 | 97.7 | -185 | 3 | 0.27 |
| 4/13/2012 | 13:50:33 | 21.23 | 1.225 | 17.67 | 8.127 | 4.69 | 97.8 | -188 | 3 | 0.27 |
| 4/13/2012 | 13:55:33 | 21.23 | 1.225 | 17.7 | 8.203 | 4.69 | 98.1 | -189 | 3 | 0.27 |
| 4/13/2012 | 14:00:33 | 21.23 | 1.225 | 17.71 | 8.217 | 4.68 | 98.6 | -201 | 3 | 0.27 |
| 4/13/2012 | 14:05:33 | 21.23 | 1.225 | 17.7 | 8.213 | 4.68 | 98.8 | -206 | 3 | 0.27 |
| 4/13/2012 | 14:10:33 | 21.23 | 1.225 | 17.71 | 8.224 | 4.68 | 98.6 | -206 | 3 | 0.27 |
| 4/13/2012 | 14:15:33 | 21.23 | 1.225 | 17.71 | 8.225 | 4.68 | 98.4 | -194 | 3 | 0.27 |
| 4/13/2012 | 14:20:33 | 21.23 | 1.223 | 17.67 | 8.13 | 4.69 | 97.8 | -179 | 3 | 0.27 |
| 4/13/2012 | 14:25:33 | 21.23 | 1.224 | 17.67 | 8.128 | 4.7 | 97.4 | -179 | 3 | 0.27 |
| 4/13/2012 | 14:30:33 | 21.23 | 1.224 | 17.67 | 8.137 | 4.7 | 97.4 | -178 | 3 | 0.27 |
| 4/13/2012 | 14:35:33 | 21.23 | 1.225 | 17.67 | 8.144 | 4.7 | 97.4 | -182 | 3 | 0.27 |
| 4/13/2012 | 14:40:33 | 21.23 | 1.224 | 17.68 | 8.149 | 4.7 | 97.5 | -192 | 3 | 0.27 |
| 4/13/2012 | 14:45:33 | 21.23 | 1.224 | 17.68 | 8.155 | 4.69 | 97.8 | -203 | 3 | 0.27 |
| 4/13/2012 | 14:50:33 | 21.23 | 1.225 | 17.68 | 8.158 | 4.69 | 97.8 | -207 | 3 | 0.27 |
| 4/13/2012 | 14:55:33 | 21.23 | 1.225 | 17.68 | 8.16 | 4.69 | 97.7 | -207 | 3 | 0.27 |
| 4/13/2012 | 15:00:33 | 21.23 | 1.225 | 17.68 | 8.167 | 4.69 | 97.7 | -207 | 3 | 0.27 |
| 4/13/2012 | 15:05:33 | 21.23 | 1.225 | 17.69 | 8.174 | 4.69 | 98 | -210 | 3 | 0.27 |
| 4/13/2012 | 15:10:33 | 21.23 | 1.225 | 17.69 | 8.172 | 4.69 | 98.1 | -208 | 3 | 0.27 |
| 4/13/2012 | 15:15:33 | 21.23 | 1.225 | 17.69 | 8.175 | 4.69 | 98 | -203 | 3 | 0.27 |
| 4/13/2012 | 15:20:33 | 21.23 | 1.225 | 17.69 | 8.178 | 4.69 | 97.9 | -209 | 3 | 0.27 |
| 4/13/2012 | 15:25:33 | 21.23 | 1.225 | 17.69 | 8.187 | 4.69 | 98 | -211 | 3 | 0.27 |
| 4/13/2012 | 15:30:33 | 21.23 | 1.225 | 17.7 | 8.201 | 4.68 | 98.3 | -212 | 3 | 0.27 |
| 4/13/2012 | 15:35:33 | 21.23 | 1.225 | 17.7 | 8.201 | 4.69 | 98.2 | -210 | 3 | 0.27 |
| 4/13/2012 | 15:40:33 | 21.23 | 1.225 | 17.7 | 8.203 | 4.69 | 98.2 | -215 | 3 | 0.27 |
| 4/13/2012 | 15:45:33 | 21.23 | 1.225 | 17.7 | 8.206 | 4.68 | 98.4 | -217 | 3 | 0.27 |
| 4/13/2012 | 15:50:33 | 21.23 | 1.225 | 17.7 | 8.207 | 4.68 | 98.6 | -221 | 3 | 0.27 |
| 4/13/2012 | 15:55:33 | 21.23 | 1.225 | 17.7 | 8.21 | 4.68 | 98.3 | -223 | 3 | 0.27 |
| 4/13/2012 | 16:00:33 | 21.24 | 1.225 | 17.7 | 8.213 | 4.69 | 98 | -224 | 3 | 0.27 |
| 4/13/2012 | 16:05:33 | 21.24 | 1.225 | 17.71 | 8.216 | 4.7 | 97.3 | -229 | 3 | 0.27 |
| 4/13/2012 | 16:10:33 | 21.24 | 1.225 | 17.71 | 8.217 | 4.71 | 96.9 | -229 | 3 | 0.27 |
| 4/13/2012 | 16:15:33 | 21.24 | 1.226 | 17.71 | 8.223 | 4.71 | 96.7 | -230 | 3 | 0.27 |
| 4/13/2012 | 16:20:33 | 21.23 | 1.226 | 17.71 | 8.224 | 4.71 | 96.9 | -228 | 3 | 0.27 |
| 4/13/2012 | 16:25:33 | 21.24 | 1.226 | 17.71 | 8.229 | 4.71 | 97 | -230 | 3 | 0.27 |
| 4/13/2012 | 16:30:33 | 21.24 | 1.226 | 17.71 | 8.234 | 4.7 | 97.2 | -229 | 3 | 0.27 |
| 4/13/2012 | 16:35:33 | 21.24 | 1.227 | 17.71 | 8.235 | 4.7 | 97.6 | -228 | 3 | 0.27 |
| 4/13/2012 | 16:40:33 | 21.24 | 1.226 | 17.71 | 8.232 | 4.69 | 97.9 | -230 | 3 | 0.27 |
| 4/13/2012 | 16:45:33 | 21.24 | 1.227 | 17.71 | 8.238 | 4.68 | 98.5 | -231 | 3 | 0.27 |
| 4/13/2012 | 16:50:33 | 21.24 | 1.227 | 17.72 | 8.24 | 4.68 | 98.7 | -233 | 3 | 0.27 |
| 4/13/2012 | 16:55:33 | 21.24 | 1.228 | 17.72 | 8.242 | 4.67 | 98.8 | -233 | 3 | 0.27 |
| 4/13/2012 | 17:00:33 | 21.24 | 1.227 | 17.72 | 8.244 | 4.67 | 99.2 | -234 | 3 | 0.27 |
| 4/13/2012 | 17:05:33 | 21.24 | 1.227 | 17.72 | 8.248 | 4.66 | 99.6 | -236 | 3 | 0.27 |
| 4/13/2012 | 17:10:33 | 21.24 | 1.227 | 17.72 | 8.252 | 4.66 | 99.7 | -236 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 17:15:33 | 21.24 | 1.227 | 17.72 | 8.258 | 4.66 | 99.9 | -236 | 3 | 0.27 |
| 4/13/2012 | 17:20:33 | 21.24 | 1.227 | 17.72 | 8.26 | 4.65 | 100 | -237 | 3 | 0.27 |
| 4/13/2012 | 17:25:33 | 21.24 | 1.228 | 17.73 | 8.264 | 4.65 | 100 | -233 | 3 | 0.27 |
| 4/13/2012 | 17:30:33 | 21.24 | 1.227 | 17.73 | 8.267 | 4.65 | 100.1 | -225 | 3 | 0.27 |
| 4/13/2012 | 17:35:33 | 21.24 | 1.228 | 17.73 | 8.271 | 4.65 | 100.2 | -227 | 3 | 0.27 |
| 4/13/2012 | 17:40:33 | 21.24 | 1.228 | 17.73 | 8.274 | 4.64 | 100.5 | -233 | 3 | 0.27 |
| 4/13/2012 | 17:45:33 | 21.24 | 1.228 | 17.73 | 8.277 | 4.64 | 101 | -238 | 3 | 0.27 |
| 4/13/2012 | 17:50:33 | 21.24 | 1.228 | 17.73 | 8.279 | 4.63 | 101.2 | -241 | 3 | 0.27 |
| 4/13/2012 | 17:55:33 | 21.24 | 1.228 | 17.73 | 8.281 | 4.62 | 101.6 | -243 | 3 | 0.27 |
| 4/13/2012 | 18:00:33 | 21.24 | 1.228 | 17.73 | 8.282 | 4.62 | 101.9 | -245 | 3 | 0.27 |
| 4/13/2012 | 18:05:33 | 21.24 | 1.228 | 17.73 | 8.284 | 4.62 | 102.1 | -246 | 3 | 0.27 |
| 4/13/2012 | 18:10:33 | 21.24 | 1.228 | 17.73 | 8.284 | 4.61 | 102.2 | -247 | 3 | 0.27 |
| 4/13/2012 | 18:15:33 | 21.24 | 1.228 | 17.73 | 8.284 | 4.61 | 102.4 | -247 | 3 | 0.27 |
| 4/13/2012 | 18:20:33 | 21.24 | 1.228 | 17.73 | 8.283 | 4.61 | 102.4 | -247 | 3 | 0.27 |
| 4/13/2012 | 18:25:33 | 21.24 | 1.229 | 17.73 | 8.281 | 4.61 | 102.4 | -246 | 3 | 0.27 |
| 4/13/2012 | 18:30:33 | 21.24 | 1.229 | 17.73 | 8.279 | 4.61 | 102.2 | -248 | 3 | 0.27 |
| 4/13/2012 | 18:35:33 | 21.24 | 1.229 | 17.73 | 8.277 | 4.61 | 102.2 | -250 | 3 | 0.27 |
| 4/13/2012 | 18:40:33 | 21.24 | 1.229 | 17.73 | 8.278 | 4.61 | 102.4 | -249 | 3 | 0.27 |
| 4/13/2012 | 18:45:33 | 21.24 | 1.23 | 17.73 | 8.273 | 4.61 | 102.4 | -248 | 3 | 0.27 |
| 4/13/2012 | 18:50:33 | 21.24 | 1.23 | 17.73 | 8.272 | 4.61 | 102.4 | -249 | 3 | 0.27 |
| 4/13/2012 | 18:55:33 | 21.24 | 1.23 | 17.73 | 8.27 | 4.61 | 102.2 | -249 | 3 | 0.27 |
| 4/13/2012 | 19:00:33 | 21.24 | 1.231 | 17.73 | 8.267 | 4.61 | 102.2 | -249 | 3 | 0.27 |
| 4/13/2012 | 19:05:33 | 21.24 | 1.231 | 17.73 | 8.263 | 4.62 | 102.1 | -250 | 3 | 0.27 |
| 4/13/2012 | 19:10:33 | 21.24 | 1.23 | 17.72 | 8.26 | 4.62 | 101.9 | -250 | 3 | 0.27 |
| 4/13/2012 | 19:15:33 | 21.24 | 1.23 | 17.72 | 8.258 | 4.62 | 101.7 | -252 | 3 | 0.27 |
| 4/13/2012 | 19:20:33 | 21.24 | 1.231 | 17.72 | 8.257 | 4.62 | 101.6 | -254 | 3 | 0.27 |
| 4/13/2012 | 19:25:33 | 21.24 | 1.231 | 17.72 | 8.252 | 4.63 | 101.4 | -255 | 3 | 0.27 |
| 4/13/2012 | 19:30:33 | 21.24 | 1.231 | 17.72 | 8.249 | 4.63 | 101.3 | -255 | 3 | 0.27 |
| 4/13/2012 | 19:35:33 | 21.24 | 1.231 | 17.72 | 8.249 | 4.63 | 101.2 | -255 | 3 | 0.27 |
| 4/13/2012 | 19:40:33 | 21.24 | 1.232 | 17.72 | 8.244 | 4.64 | 101 | -236 | 3 | 0.27 |
| 4/13/2012 | 19:45:33 | 21.24 | 1.232 | 17.72 | 8.241 | 4.64 | 101 | -239 | 3 | 0.27 |
| 4/13/2012 | 19:50:33 | 21.24 | 1.232 | 17.71 | 8.238 | 4.64 | 100.8 | -243 | 3 | 0.27 |
| 4/13/2012 | 19:55:33 | 21.24 | 1.232 | 17.71 | 8.232 | 4.64 | 100.8 | -244 | 3 | 0.27 |
| 4/13/2012 | 20:00:33 | 21.24 | 1.232 | 17.71 | 8.231 | 4.64 | 100.7 | -246 | 3 | 0.27 |
| 4/13/2012 | 20:05:33 | 21.24 | 1.232 | 17.71 | 8.227 | 4.64 | 100.6 | -249 | 3 | 0.27 |
| 4/13/2012 | 20:10:33 | 21.24 | 1.233 | 17.71 | 8.222 | 4.64 | 100.5 | -249 | 3 | 0.27 |
| 4/13/2012 | 20:15:33 | 21.24 | 1.232 | 17.71 | 8.22 | 4.64 | 100.5 | -246 | 3 | 0.27 |
| 4/13/2012 | 20:20:33 | 21.24 | 1.232 | 17.71 | 8.218 | 4.64 | 100.5 | -246 | 3 | 0.27 |
| 4/13/2012 | 20:25:33 | 21.24 | 1.233 | 17.71 | 8.216 | 4.64 | 100.6 | -245 | 3 | 0.27 |
| 4/13/2012 | 20:30:33 | 21.24 | 1.233 | 17.7 | 8.213 | 4.64 | 100.8 | -244 | 3 | 0.27 |
| 4/13/2012 | 20:35:33 | 21.24 | 1.233 | 17.7 | 8.208 | 4.64 | 100.6 | -245 | 3 | 0.27 |
| 4/13/2012 | 20:40:33 | 21.24 | 1.233 | 17.7 | 8.205 | 4.64 | 100.6 | -246 | 3 | 0.27 |
| 4/13/2012 | 20:45:33 | 21.24 | 1.233 | 17.7 | 8.2 | 4.64 | 100.6 | -249 | 3 | 0.27 |
| 4/13/2012 | 20:50:33 | 21.24 | 1.233 | 17.7 | 8.198 | 4.64 | 100.6 | -247 | 3 | 0.27 |
| 4/13/2012 | 20:55:33 | 21.24 | 1.233 | 17.7 | 8.196 | 4.64 | 100.6 | -248 | 3 | 0.27 |
| 4/13/2012 | 21:00:33 | 21.24 | 1.233 | 17.7 | 8.193 | 4.64 | 100.6 | -244 | 3 | 0.27 |
| 4/13/2012 | 21:05:33 | 21.24 | 1.233 | 17.69 | 8.19 | 4.64 | 100.6 | -248 | 3 | 0.27 |
| 4/13/2012 | 21:10:33 | 21.24 | 1.233 | 17.69 | 8.187 | 4.64 | 100.5 | -246 | 3 | 0.27 |
| 4/13/2012 | 21:15:33 | 21.24 | 1.233 | 17.69 | 8.184 | 4.65 | 100.5 | -247 | 3 | 0.27 |
| 4/13/2012 | 21:20:33 | 21.25 | 1.233 | 17.69 | 8.181 | 4.65 | 100.3 | -242 | 3 | 0.27 |
| 4/13/2012 | 21:25:33 | 21.25 | 1.233 | 17.69 | 8.178 | 4.65 | 100.2 | -247 | 3 | 0.27 |
| 4/13/2012 | 21:30:33 | 21.24 | 1.233 | 17.69 | 8.177 | 4.65 | 100.1 | -243 | 3 | 0.27 |
| 4/13/2012 | 21:35:33 | 21.25 | 1.233 | 17.69 | 8.175 | 4.66 | 99.9 | -243 | 3 | 0.27 |
| 4/13/2012 | 21:40:33 | 21.25 | 1.233 | 17.69 | 8.171 | 4.66 | 99.9 | -245 | 3 | 0.27 |
| 4/13/2012 | 21:45:33 | 21.25 | 1.233 | 17.69 | 8.168 | 4.66 | 99.7 | -242 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/13/2012 | 21:50:33 | 21.25 | 1.233 | 17.68 | 8.165 | 4.66 | 99.5 | -244 | 3 | 0.27 |
| 4/13/2012 | 21:55:33 | 21.25 | 1.233 | 17.68 | 8.165 | 4.66 | 99.5 | -245 | 3 | 0.27 |
| 4/13/2012 | 22:00:33 | 21.25 | 1.233 | 17.68 | 8.162 | 4.66 | 99.4 | -245 | 3 | 0.27 |
| 4/13/2012 | 22:05:33 | 21.25 | 1.232 | 17.68 | 8.157 | 4.67 | 99.3 | -242 | 3 | 0.27 |
| 4/13/2012 | 22:10:33 | 21.25 | 1.232 | 17.68 | 8.156 | 4.67 | 99.1 | -243 | 3 | 0.27 |
| 4/13/2012 | 22:15:33 | 21.25 | 1.232 | 17.68 | 8.155 | 4.68 | 98.8 | -242 | 3 | 0.27 |
| 4/13/2012 | 22:20:33 | 21.25 | 1.232 | 17.68 | 8.153 | 4.68 | 98.6 | -244 | 3 | 0.26 |
| 4/13/2012 | 22:25:33 | 21.25 | 1.231 | 17.68 | 8.152 | 4.68 | 98.6 | -246 | 3 | 0.27 |
| 4/13/2012 | 22:30:33 | 21.25 | 1.231 | 17.68 | 8.149 | 4.68 | 98.5 | -246 | 3 | 0.27 |
| 4/13/2012 | 22:35:33 | 21.25 | 1.231 | 17.68 | 8.148 | 4.68 | 98.4 | -246 | 3 | 0.27 |
| 4/13/2012 | 22:40:33 | 21.25 | 1.231 | 17.68 | 8.147 | 4.68 | 98.4 | -248 | 3 | 0.27 |
| 4/13/2012 | 22:45:33 | 21.25 | 1.23 | 17.67 | 8.143 | 4.68 | 98.4 | -250 | 3 | 0.27 |
| 4/13/2012 | 22:50:33 | 21.25 | 1.23 | 17.67 | 8.139 | 4.68 | 98.3 | -252 | 3 | 0.27 |
| 4/13/2012 | 22:55:33 | 21.25 | 1.229 | 17.67 | 8.138 | 4.68 | 98.4 | -252 | 3 | 0.26 |
| 4/13/2012 | 23:00:33 | 21.25 | 1.229 | 17.67 | 8.138 | 4.68 | 98.4 | -253 | 3 | 0.26 |
| 4/13/2012 | 23:05:33 | 21.25 | 1.228 | 17.67 | 8.136 | 4.68 | 98.4 | -255 | 3 | 0.27 |
| 4/13/2012 | 23:10:33 | 21.25 | 1.228 | 17.67 | 8.134 | 4.68 | 98.5 | -257 | 3 | 0.26 |
| 4/13/2012 | 23:15:33 | 21.25 | 1.227 | 17.67 | 8.132 | 4.68 | 98.5 | -258 | 3 | 0.27 |
| 4/13/2012 | 23:20:33 | 21.25 | 1.227 | 17.67 | 8.131 | 4.68 | 98.4 | -258 | 3 | 0.27 |
| 4/13/2012 | 23:25:33 | 21.25 | 1.226 | 17.67 | 8.13 | 4.68 | 98.4 | -258 | 3 | 0.27 |
| 4/13/2012 | 23:30:33 | 21.25 | 1.226 | 17.67 | 8.13 | 4.68 | 98.4 | -258 | 3 | 0.27 |
| 4/13/2012 | 23:35:33 | 21.25 | 1.226 | 17.67 | 8.132 | 4.68 | 98.4 | -259 | 3 | 0.27 |
| 4/13/2012 | 23:40:33 | 21.25 | 1.226 | 17.67 | 8.129 | 4.69 | 98.2 | -260 | 3 | 0.27 |
| 4/13/2012 | 23:45:33 | 21.25 | 1.226 | 17.67 | 8.129 | 4.68 | 98.2 | -260 | 3 | 0.27 |
| 4/13/2012 | 23:50:33 | 21.25 | 1.226 | 17.67 | 8.13 | 4.68 | 98.7 | -260 | 3 | 0.27 |
| 4/13/2012 | 23:55:33 | 21.25 | 1.226 | 17.67 | 8.128 | 4.67 | 99 | -263 | 3 | 0.27 |
| 4/14/2012 | 0:00:33 | 21.25 | 1.226 | 17.67 | 8.127 | 4.67 | 99.3 | -264 | 3 | 0.27 |
| 4/14/2012 | 0:05:33 | 21.25 | 1.226 | 17.67 | 8.127 | 4.66 | 99.5 | -265 | 3 | 0.26 |
| 4/14/2012 | 0:10:33 | 21.25 | 1.226 | 17.67 | 8.125 | 4.66 | 99.9 | -266 | 3 | 0.27 |
| 4/14/2012 | 0:15:33 | 21.25 | 1.227 | 17.67 | 8.126 | 4.66 | 99.9 | -266 | 3 | 0.26 |
| 4/14/2012 | 0:20:33 | 21.25 | 1.227 | 17.67 | 8.124 | 4.66 | 99.9 | -266 | 3 | 0.27 |
| 4/14/2012 | 0:25:33 | 21.25 | 1.227 | 17.67 | 8.124 | 4.66 | 99.7 | -267 | 3 | 0.27 |
| 4/14/2012 | 0:30:33 | 21.25 | 1.227 | 17.67 | 8.124 | 4.65 | 99.9 | -267 | 3 | 0.27 |
| 4/14/2012 | 0:35:33 | 21.25 | 1.227 | 17.67 | 8.122 | 4.65 | 100.2 | -268 | 3 | 0.27 |
| 4/14/2012 | 0:40:33 | 21.25 | 1.227 | 17.67 | 8.122 | 4.65 | 100.4 | -267 | 3 | 0.26 |
| 4/14/2012 | 0:45:33 | 21.25 | 1.227 | 17.66 | 8.119 | 4.65 | 100.3 | -268 | 3 | 0.26 |
| 4/14/2012 | 0:50:33 | 21.25 | 1.227 | 17.66 | 8.118 | 4.65 | 100.1 | -269 | 3 | 0.26 |
| 4/14/2012 | 0:55:33 | 21.25 | 1.227 | 17.66 | 8.119 | 4.65 | 100.3 | -270 | 3 | 0.26 |
| 4/14/2012 | 1:00:33 | 21.25 | 1.227 | 17.66 | 8.121 | 4.65 | 100.2 | -270 | 3 | 0.26 |
| 4/14/2012 | 1:05:33 | 21.25 | 1.227 | 17.67 | 8.123 | 4.65 | 100.3 | -270 | 3 | 0.27 |
| 4/14/2012 | 1:10:33 | 21.25 | 1.227 | 17.66 | 8.122 | 4.65 | 100.3 | -271 | 3 | 0.26 |
| 4/14/2012 | 1:15:33 | 21.25 | 1.227 | 17.67 | 8.124 | 4.65 | 100.2 | -271 | 3 | 0.26 |
| 4/14/2012 | 1:20:33 | 21.25 | 1.227 | 17.67 | 8.125 | 4.65 | 100.2 | -271 | 3 | 0.27 |
| 4/14/2012 | 1:25:33 | 21.25 | 1.227 | 17.67 | 8.125 | 4.65 | 100.1 | -271 | 3 | 0.27 |
| 4/14/2012 | 1:30:33 | 21.25 | 1.227 | 17.67 | 8.126 | 4.65 | 100.2 | -272 | 3 | 0.27 |
| 4/14/2012 | 1:35:33 | 21.25 | 1.227 | 17.67 | 8.124 | 4.65 | 100.4 | -272 | 3 | 0.27 |
| 4/14/2012 | 1:40:33 | 21.25 | 1.227 | 17.67 | 8.126 | 4.64 | 100.6 | -273 | 3 | 0.27 |
| 4/14/2012 | 1:45:33 | 21.25 | 1.227 | 17.67 | 8.128 | 4.64 | 100.8 | -273 | 3 | 0.27 |
| 4/14/2012 | 1:50:33 | 21.25 | 1.227 | 17.67 | 8.127 | 4.63 | 101.1 | -273 | 3 | 0.27 |
| 4/14/2012 | 1:55:33 | 21.25 | 1.227 | 17.67 | 8.125 | 4.63 | 101.3 | -273 | 3 | 0.27 |
| 4/14/2012 | 2:00:33 | 21.25 | 1.227 | 17.67 | 8.126 | 4.63 | 101.3 | -273 | 3 | 0.27 |
| 4/14/2012 | 2:05:33 | 21.25 | 1.227 | 17.67 | 8.126 | 4.63 | 101.3 | -273 | 3 | 0.27 |
| 4/14/2012 | 2:10:33 | 21.25 | 1.227 | 17.67 | 8.129 | 4.63 | 101.4 | -274 | 3 | 0.27 |
| 4/14/2012 | 2:15:33 | 21.25 | 1.227 | 17.67 | 8.128 | 4.62 | 101.7 | -274 | 3 | 0.26 |
| 4/14/2012 | 2:20:33 | 21.25 | 1.228 | 17.67 | 8.129 | 4.62 | 101.7 | -274 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 2:25:33 | 21.25 | 1.228 | 17.67 | 8.132 | 4.62 | 101.9 | -275 | 3 | 0.26 |
| 4/14/2012 | 2:30:33 | 21.25 | 1.228 | 17.67 | 8.135 | 4.62 | 101.9 | -275 | 3 | 0.27 |
| 4/14/2012 | 2:35:33 | 21.25 | 1.228 | 17.67 | 8.137 | 4.62 | 101.8 | -275 | 3 | 0.27 |
| 4/14/2012 | 2:40:33 | 21.25 | 1.228 | 17.67 | 8.139 | 4.62 | 101.7 | -275 | 3 | 0.27 |
| 4/14/2012 | 2:45:33 | 21.25 | 1.228 | 17.67 | 8.143 | 4.63 | 101.5 | -275 | 3 | 0.27 |
| 4/14/2012 | 2:50:33 | 21.25 | 1.228 | 17.67 | 8.145 | 4.63 | 101.3 | -275 | 3 | 0.27 |
| 4/14/2012 | 2:55:33 | 21.25 | 1.228 | 17.68 | 8.147 | 4.63 | 101.1 | -275 | 3 | 0.27 |
| 4/14/2012 | 3:00:33 | 21.25 | 1.228 | 17.68 | 8.15 | 4.64 | 101 | -276 | 3 | 0.27 |
| 4/14/2012 | 3:05:33 | 21.25 | 1.228 | 17.68 | 8.152 | 4.64 | 100.9 | -276 | 3 | 0.27 |
| 4/14/2012 | 3:10:33 | 21.25 | 1.229 | 17.68 | 8.156 | 4.64 | 100.8 | -276 | 3 | 0.26 |
| 4/14/2012 | 3:15:33 | 21.25 | 1.229 | 17.68 | 8.159 | 4.64 | 100.7 | -276 | 3 | 0.26 |
| 4/14/2012 | 3:20:33 | 21.25 | 1.229 | 17.68 | 8.165 | 4.64 | 100.7 | -277 | 3 | 0.26 |
| 4/14/2012 | 3:25:33 | 21.25 | 1.229 | 17.68 | 8.165 | 4.64 | 100.7 | -277 | 3 | 0.26 |
| 4/14/2012 | 3:30:33 | 21.25 | 1.229 | 17.69 | 8.17 | 4.64 | 100.6 | -277 | 3 | 0.27 |
| 4/14/2012 | 3:35:33 | 21.25 | 1.229 | 17.69 | 8.173 | 4.64 | 100.6 | -277 | 3 | 0.27 |
| 4/14/2012 | 3:40:33 | 21.25 | 1.23 | 17.69 | 8.176 | 4.64 | 100.7 | -278 | 3 | 0.26 |
| 4/14/2012 | 3:45:33 | 21.25 | 1.23 | 17.69 | 8.181 | 4.64 | 100.7 | -278 | 3 | 0.27 |
| 4/14/2012 | 3:50:33 | 21.25 | 1.23 | 17.69 | 8.188 | 4.64 | 100.8 | -278 | 3 | 0.26 |
| 4/14/2012 | 3:55:33 | 21.25 | 1.23 | 17.7 | 8.192 | 4.64 | 100.9 | -278 | 3 | 0.26 |
| 4/14/2012 | 4:00:33 | 21.25 | 1.23 | 17.7 | 8.196 | 4.64 | 101 | -279 | 3 | 0.27 |
| 4/14/2012 | 4:05:33 | 21.26 | 1.23 | 17.7 | 8.2 | 4.63 | 101.2 | -279 | 3 | 0.27 |
| 4/14/2012 | 4:10:33 | 21.26 | 1.231 | 17.7 | 8.205 | 4.63 | 101.3 | -279 | 3 | 0.27 |
| 4/14/2012 | 4:15:33 | 21.26 | 1.231 | 17.7 | 8.207 | 4.63 | 101.4 | -279 | 3 | 0.26 |
| 4/14/2012 | 4:20:33 | 21.26 | 1.231 | 17.7 | 8.21 | 4.63 | 101.4 | -279 | 3 | 0.27 |
| 4/14/2012 | 4:25:33 | 21.26 | 1.232 | 17.7 | 8.213 | 4.63 | 101.4 | -280 | 3 | 0.27 |
| 4/14/2012 | 4:30:33 | 21.26 | 1.232 | 17.71 | 8.219 | 4.63 | 101.4 | -280 | 3 | 0.27 |
| 4/14/2012 | 4:35:33 | 21.26 | 1.232 | 17.71 | 8.226 | 4.63 | 101.4 | -280 | 3 | 0.27 |
| 4/14/2012 | 4:40:33 | 21.26 | 1.232 | 17.71 | 8.229 | 4.63 | 101.5 | -280 | 3 | 0.27 |
| 4/14/2012 | 4:45:33 | 21.26 | 1.232 | 17.71 | 8.231 | 4.63 | 101.4 | -280 | 3 | 0.27 |
| 4/14/2012 | 4:50:33 | 21.26 | 1.233 | 17.71 | 8.236 | 4.63 | 101.6 | -280 | 3 | 0.27 |
| 4/14/2012 | 4:55:33 | 21.26 | 1.233 | 17.72 | 8.242 | 4.62 | 101.7 | -280 | 3 | 0.27 |
| 4/14/2012 | 5:00:33 | 21.26 | 1.233 | 17.72 | 8.248 | 4.62 | 101.8 | -280 | 3 | 0.27 |
| 4/14/2012 | 5:05:33 | 21.26 | 1.234 | 17.72 | 8.254 | 4.62 | 101.9 | -281 | 3 | 0.27 |
| 4/14/2012 | 5:10:33 | 21.26 | 1.234 | 17.73 | 8.262 | 4.62 | 101.9 | -281 | 3 | 0.27 |
| 4/14/2012 | 5:15:33 | 21.26 | 1.235 | 17.73 | 8.27 | 4.62 | 101.9 | -281 | 3 | 0.27 |
| 4/14/2012 | 5:20:33 | 21.26 | 1.236 | 17.73 | 8.276 | 4.62 | 101.9 | -281 | 3 | 0.27 |
| 4/14/2012 | 5:25:33 | 21.26 | 1.236 | 17.73 | 8.282 | 4.62 | 101.9 | -281 | 3 | 0.27 |
| 4/14/2012 | 5:30:33 | 21.26 | 1.236 | 17.74 | 8.287 | 4.62 | 101.9 | -281 | 3 | 0.27 |
| 4/14/2012 | 5:35:33 | 21.26 | 1.237 | 17.74 | 8.292 | 4.62 | 101.9 | -281 | 3 | 0.27 |
| 4/14/2012 | 5:40:33 | 21.26 | 1.237 | 17.74 | 8.298 | 4.62 | 102 | -281 | 3 | 0.27 |
| 4/14/2012 | 5:45:33 | 21.26 | 1.238 | 17.74 | 8.305 | 4.62 | 101.9 | -282 | 3 | 0.27 |
| 4/14/2012 | 5:50:33 | 21.26 | 1.238 | 17.75 | 8.31 | 4.62 | 101.9 | -282 | 3 | 0.27 |
| 4/14/2012 | 5:55:33 | 21.26 | 1.239 | 17.75 | 8.316 | 4.62 | 102.1 | -282 | 3 | 0.27 |
| 4/14/2012 | 6:00:33 | 21.26 | 1.239 | 17.75 | 8.32 | 4.61 | 102.2 | -282 | 3 | 0.27 |
| 4/14/2012 | 6:05:33 | 21.26 | 1.24 | 17.75 | 8.326 | 4.61 | 102.2 | -282 | 3 | 0.27 |
| 4/14/2012 | 6:10:33 | 21.26 | 1.241 | 17.76 | 8.333 | 4.61 | 102.2 | -282 | 3 | 0.27 |
| 4/14/2012 | 6:15:33 | 21.26 | 1.241 | 17.76 | 8.334 | 4.61 | 102.3 | -282 | 3 | 0.27 |
| 4/14/2012 | 6:20:33 | 21.26 | 1.242 | 17.76 | 8.339 | 4.61 | 102.2 | -282 | 3 | 0.27 |
| 4/14/2012 | 6:25:33 | 21.26 | 1.242 | 17.76 | 8.343 | 4.61 | 102.5 | -282 | 3 | 0.27 |
| 4/14/2012 | 6:30:33 | 21.26 | 1.242 | 17.76 | 8.347 | 4.6 | 103 | -282 | 3 | 0.27 |
| 4/14/2012 | 6:35:33 | 21.26 | 1.242 | 17.76 | 8.346 | 4.6 | 103.1 | -282 | 3 | 0.27 |
| 4/14/2012 | 6:40:33 | 21.26 | 1.243 | 17.76 | 8.351 | 4.59 | 103.3 | -282 | 3 | 0.27 |
| 4/14/2012 | 6:45:33 | 21.26 | 1.243 | 17.76 | 8.351 | 4.59 | 103.4 | -283 | 3 | 0.27 |
| 4/14/2012 | 6:50:33 | 21.26 | 1.243 | 17.76 | 8.351 | 4.59 | 103.4 | -282 | 3 | 0.27 |
| 4/14/2012 | 6:55:33 | 21.26 | 1.244 | 17.77 | 8.354 | 4.59 | 103.5 | -282 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 7:00:33 | 21.26 | 1.244 | 17.77 | 8.354 | 4.59 | 103.5 | -283 | 3 | 0.27 |
| 4/14/2012 | 7:05:33 | 21.26 | 1.244 | 17.76 | 8.352 | 4.59 | 103.5 | -283 | 3 | 0.27 |
| 4/14/2012 | 7:10:33 | 21.26 | 1.244 | 17.76 | 8.35 | 4.59 | 103.5 | -283 | 3 | 0.27 |
| 4/14/2012 | 7:15:33 | 21.26 | 1.245 | 17.76 | 8.352 | 4.59 | 103.4 | -283 | 3 | 0.27 |
| 4/14/2012 | 7:20:33 | 21.26 | 1.245 | 17.76 | 8.35 | 4.59 | 103.3 | -283 | 3 | 0.27 |
| 4/14/2012 | 7:25:33 | 21.26 | 1.245 | 17.76 | 8.351 | 4.6 | 103.3 | -283 | 3 | 0.27 |
| 4/14/2012 | 7:30:33 | 21.26 | 1.245 | 17.76 | 8.35 | 4.59 | 103.3 | -283 | 3 | 0.27 |
| 4/14/2012 | 7:35:33 | 21.26 | 1.245 | 17.76 | 8.347 | 4.59 | 103.3 | -283 | 3 | 0.27 |
| 4/14/2012 | 7:40:33 | 21.26 | 1.245 | 17.76 | 8.343 | 4.59 | 103.5 | -284 | 3 | 0.27 |
| 4/14/2012 | 7:45:33 | 21.26 | 1.245 | 17.76 | 8.34 | 4.59 | 103.5 | -284 | 3 | 0.27 |
| 4/14/2012 | 7:50:33 | 21.26 | 1.246 | 17.76 | 8.335 | 4.59 | 103.5 | -284 | 3 | 0.27 |
| 4/14/2012 | 7:55:33 | 21.26 | 1.246 | 17.76 | 8.333 | 4.59 | 103.5 | -284 | 3 | 0.27 |
| 4/14/2012 | 8:00:33 | 21.26 | 1.246 | 17.75 | 8.327 | 4.59 | 103.4 | -284 | 3 | 0.27 |
| 4/14/2012 | 8:05:33 | 21.26 | 1.246 | 17.75 | 8.324 | 4.6 | 103.1 | -284 | 3 | 0.27 |
| 4/14/2012 | 8:10:33 | 21.26 | 1.246 | 17.75 | 8.32 | 4.6 | 103.1 | -284 | 3 | 0.27 |
| 4/14/2012 | 8:15:33 | 21.26 | 1.247 | 17.75 | 8.317 | 4.6 | 103.1 | -285 | 3 | 0.27 |
| 4/14/2012 | 8:20:33 | 21.26 | 1.246 | 17.75 | 8.311 | 4.6 | 103.2 | -285 | 3 | 0.27 |
| 4/14/2012 | 8:25:33 | 21.26 | 1.246 | 17.74 | 8.304 | 4.6 | 103.3 | -285 | 3 | 0.27 |
| 4/14/2012 | 8:30:33 | 21.26 | 1.247 | 17.74 | 8.3 | 4.6 | 103.3 | -285 | 3 | 0.27 |
| 4/14/2012 | 8:35:33 | 21.26 | 1.247 | 17.74 | 8.297 | 4.6 | 103.1 | -285 | 3 | 0.27 |
| 4/14/2012 | 8:40:33 | 21.26 | 1.247 | 17.74 | 8.296 | 4.6 | 103.1 | -285 | 3 | 0.27 |
| 4/14/2012 | 8:45:33 | 21.26 | 1.247 | 17.74 | 8.295 | 4.6 | 103.1 | -285 | 3 | 0.27 |
| 4/14/2012 | 8:50:33 | 21.26 | 1.247 | 17.74 | 8.293 | 4.6 | 103 | -285 | 3 | 0.27 |
| 4/14/2012 | 8:55:33 | 21.26 | 1.247 | 17.74 | 8.289 | 4.6 | 102.9 | -285 | 3 | 0.27 |
| 4/14/2012 | 9:00:33 | 21.26 | 1.248 | 17.73 | 8.284 | 4.6 | 103 | -286 | 3 | 0.27 |
| 4/14/2012 | 9:05:33 | 21.26 | 1.248 | 17.73 | 8.278 | 4.6 | 102.9 | -286 | 3 | 0.27 |
| 4/14/2012 | 9:10:33 | 21.26 | 1.248 | 17.73 | 8.274 | 4.6 | 102.8 | -286 | 3 | 0.27 |
| 4/14/2012 | 9:15:33 | 21.26 | 1.248 | 17.73 | 8.27 | 4.6 | 102.7 | -286 | 3 | 0.27 |
| 4/14/2012 | 9:20:33 | 21.26 | 1.248 | 17.73 | 8.266 | 4.61 | 102.6 | -286 | 3 | 0.27 |
| 4/14/2012 | 9:25:33 | 21.26 | 1.248 | 17.73 | 8.262 | 4.61 | 102.5 | -287 | 3 | 0.27 |
| 4/14/2012 | 9:30:33 | 21.26 | 1.248 | 17.72 | 8.258 | 4.61 | 102.5 | -287 | 3 | 0.27 |
| 4/14/2012 | 9:35:33 | 21.26 | 1.248 | 17.72 | 8.257 | 4.61 | 102.7 | -287 | 3 | 0.27 |
| 4/14/2012 | 9:40:33 | 21.26 | 1.248 | 17.72 | 8.253 | 4.61 | 102.6 | -287 | 3 | 0.27 |
| 4/14/2012 | 9:45:33 | 21.26 | 1.248 | 17.72 | 8.25 | 4.61 | 102.7 | -287 | 3 | 0.27 |
| 4/14/2012 | 9:50:33 | 21.26 | 1.248 | 17.72 | 8.248 | 4.6 | 102.8 | -287 | 3 | 0.27 |
| 4/14/2012 | 9:55:33 | 21.26 | 1.248 | 17.72 | 8.241 | 4.6 | 103 | -287 | 3 | 0.27 |
| 4/14/2012 | 10:00:33 | 21.26 | 1.249 | 17.72 | 8.24 | 4.6 | 102.9 | -287 | 3 | 0.27 |
| 4/14/2012 | 10:05:33 | 21.26 | 1.249 | 17.71 | 8.236 | 4.6 | 103 | -287 | 3 | 0.27 |
| 4/14/2012 | 10:10:33 | 21.26 | 1.249 | 17.71 | 8.234 | 4.6 | 103.1 | -287 | 3 | 0.27 |
| 4/14/2012 | 10:15:33 | 21.26 | 1.249 | 17.71 | 8.23 | 4.6 | 103.1 | -287 | 3 | 0.27 |
| 4/14/2012 | 10:20:33 | 21.26 | 1.25 | 17.71 | 8.226 | 4.6 | 103.1 | -287 | 3 | 0.27 |
| 4/14/2012 | 10:25:33 | 21.26 | 1.249 | 17.71 | 8.223 | 4.6 | 103.2 | -288 | 3 | 0.27 |
| 4/14/2012 | 10:30:33 | 21.26 | 1.249 | 17.71 | 8.22 | 4.6 | 103.3 | -288 | 3 | 0.27 |
| 4/14/2012 | 10:35:33 | 21.27 | 1.25 | 17.71 | 8.22 | 4.6 | 103.2 | -288 | 3 | 0.27 |
| 4/14/2012 | 10:40:33 | 21.27 | 1.249 | 17.7 | 8.213 | 4.6 | 103.2 | -288 | 3 | 0.27 |
| 4/14/2012 | 10:45:33 | 21.27 | 1.249 | 17.7 | 8.212 | 4.6 | 103.1 | -288 | 3 | 0.27 |
| 4/14/2012 | 10:50:33 | 21.27 | 1.249 | 17.7 | 8.21 | 4.6 | 103.1 | -288 | 3 | 0.27 |
| 4/14/2012 | 10:55:33 | 21.27 | 1.249 | 17.7 | 8.207 | 4.6 | 103 | -288 | 3 | 0.27 |
| 4/14/2012 | 11:00:33 | 21.27 | 1.249 | 17.7 | 8.204 | 4.6 | 102.8 | -288 | 3 | 0.27 |
| 4/14/2012 | 11:05:33 | 21.27 | 1.249 | 17.7 | 8.204 | 4.6 | 102.7 | -288 | 3 | 0.26 |
| 4/14/2012 | 11:10:33 | 21.27 | 1.249 | 17.7 | 8.202 | 4.61 | 102.6 | -288 | 3 | 0.26 |
| 4/14/2012 | 11:15:33 | 21.27 | 1.249 | 17.7 | 8.2 | 4.61 | 102.5 | -288 | 3 | 0.26 |
| 4/14/2012 | 11:20:33 | 21.27 | 1.248 | 17.7 | 8.193 | 4.61 | 102.5 | -288 | 3 | 0.26 |
| 4/14/2012 | 11:25:33 | 21.27 | 1.248 | 17.7 | 8.194 | 4.61 | 102.4 | -288 | 3 | 0.27 |
| 4/14/2012 | 11:30:33 | 21.27 | 1.248 | 17.69 | 8.192 | 4.61 | 102.2 | -289 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 11:35:33 | 21.27 | 1.248 | 17.69 | 8.189 | 4.62 | 102.1 | -289 | 3 | 0.26 |
| 4/14/2012 | 11:40:33 | 21.27 | 1.248 | 17.69 | 8.186 | 4.62 | 102 | -289 | 3 | 0.26 |
| 4/14/2012 | 11:45:33 | 21.27 | 1.248 | 17.69 | 8.184 | 4.62 | 101.9 | -289 | 3 | 0.26 |
| 4/14/2012 | 11:50:33 | 21.27 | 1.247 | 17.69 | 8.182 | 4.63 | 101.6 | -289 | 3 | 0.26 |
| 4/14/2012 | 11:55:33 | 21.27 | 1.247 | 17.69 | 8.179 | 4.63 | 101.4 | -289 | 3 | 0.26 |
| 4/14/2012 | 12:00:33 | 21.27 | 1.247 | 17.69 | 8.179 | 4.63 | 101.3 | -289 | 3 | 0.26 |
| 4/14/2012 | 12:05:33 | 21.27 | 1.246 | 17.69 | 8.175 | 4.63 | 101.3 | -289 | 3 | 0.26 |
| 4/14/2012 | 12:10:33 | 21.27 | 1.246 | 17.69 | 8.175 | 4.63 | 101.4 | -289 | 3 | 0.26 |
| 4/14/2012 | 12:15:33 | 21.27 | 1.246 | 17.69 | 8.173 | 4.63 | 101.3 | -289 | 3 | 0.26 |
| 4/14/2012 | 12:20:33 | 21.27 | 1.245 | 17.69 | 8.173 | 4.63 | 101.4 | -289 | 3 | 0.26 |
| 4/14/2012 | 12:25:33 | 21.27 | 1.245 | 17.69 | 8.17 | 4.63 | 101.3 | -289 | 3 | 0.26 |
| 4/14/2012 | 12:30:33 | 21.27 | 1.244 | 17.69 | 8.17 | 4.63 | 101.2 | -289 | 3 | 0.26 |
| 4/14/2012 | 12:35:33 | 21.27 | 1.244 | 17.69 | 8.173 | 4.63 | 101.4 | -289 | 3 | 0.27 |
| 4/14/2012 | 12:40:33 | 21.27 | 1.244 | 17.69 | 8.17 | 4.63 | 101.4 | -289 | 3 | 0.27 |
| 4/14/2012 | 12:45:33 | 21.27 | 1.244 | 17.68 | 8.166 | 4.63 | 101.3 | -290 | 3 | 0.26 |
| 4/14/2012 | 12:50:33 | 21.27 | 1.244 | 17.68 | 8.165 | 4.63 | 101.3 | -290 | 3 | 0.27 |
| 4/14/2012 | 12:55:33 | 21.27 | 1.244 | 17.68 | 8.163 | 4.63 | 101.5 | -290 | 3 | 0.26 |
| 4/14/2012 | 13:00:33 | 21.27 | 1.244 | 17.68 | 8.164 | 4.62 | 101.6 | -290 | 3 | 0.26 |
| 4/14/2012 | 13:05:33 | 21.27 | 1.244 | 17.68 | 8.16 | 4.62 | 101.7 | -290 | 3 | 0.26 |
| 4/14/2012 | 13:10:33 | 21.27 | 1.244 | 17.68 | 8.16 | 4.62 | 101.6 | -290 | 3 | 0.26 |
| 4/14/2012 | 13:15:33 | 21.27 | 1.244 | 17.68 | 8.16 | 4.62 | 101.7 | -290 | 3 | 0.26 |
| 4/14/2012 | 13:20:33 | 21.27 | 1.244 | 17.68 | 8.158 | 4.62 | 101.9 | -290 | 3 | 0.26 |
| 4/14/2012 | 13:25:33 | 21.27 | 1.244 | 17.68 | 8.158 | 4.62 | 102.1 | -290 | 3 | 0.27 |
| 4/14/2012 | 13:30:33 | 21.27 | 1.244 | 17.68 | 8.157 | 4.61 | 102.2 | -291 | 3 | 0.26 |
| 4/14/2012 | 13:35:33 | 21.27 | 1.244 | 17.68 | 8.157 | 4.61 | 102.2 | -291 | 3 | 0.26 |
| 4/14/2012 | 13:40:33 | 21.27 | 1.244 | 17.68 | 8.155 | 4.61 | 102.2 | -291 | 3 | 0.27 |
| 4/14/2012 | 13:45:33 | 21.27 | 1.244 | 17.68 | 8.155 | 4.61 | 102.4 | -291 | 3 | 0.26 |
| 4/14/2012 | 13:50:33 | 21.27 | 1.243 | 17.68 | 8.154 | 4.62 | 102 | -291 | 3 | 0.26 |
| 4/14/2012 | 13:55:33 | 21.27 | 1.244 | 17.68 | 8.155 | 4.62 | 101.6 | -292 | 3 | 0.26 |
| 4/14/2012 | 14:00:33 | 21.27 | 1.243 | 17.68 | 8.154 | 4.63 | 101.3 | -292 | 3 | 0.26 |
| 4/14/2012 | 14:05:33 | 21.27 | 1.243 | 17.68 | 8.154 | 4.63 | 101.1 | -292 | 3 | 0.27 |
| 4/14/2012 | 14:10:33 | 21.27 | 1.243 | 17.68 | 8.153 | 4.64 | 101 | -292 | 3 | 0.26 |
| 4/14/2012 | 14:15:33 | 21.27 | 1.243 | 17.68 | 8.152 | 4.64 | 100.8 | -292 | 3 | 0.26 |
| 4/14/2012 | 14:20:33 | 21.27 | 1.243 | 17.68 | 8.155 | 4.64 | 100.8 | -292 | 3 | 0.27 |
| 4/14/2012 | 14:25:33 | 21.27 | 1.244 | 17.68 | 8.15 | 4.64 | 100.7 | -293 | 3 | 0.27 |
| 4/14/2012 | 14:30:33 | 21.27 | 1.244 | 17.68 | 8.152 | 4.64 | 100.8 | -293 | 3 | 0.26 |
| 4/14/2012 | 14:35:33 | 21.27 | 1.244 | 17.68 | 8.147 | 4.64 | 100.7 | -293 | 3 | 0.27 |
| 4/14/2012 | 14:40:33 | 21.27 | 1.244 | 17.68 | 8.151 | 4.64 | 100.8 | -293 | 3 | 0.27 |
| 4/14/2012 | 14:45:33 | 21.27 | 1.244 | 17.68 | 8.151 | 4.64 | 100.9 | -293 | 3 | 0.27 |
| 4/14/2012 | 14:50:33 | 21.27 | 1.244 | 17.68 | 8.153 | 4.64 | 100.8 | -294 | 3 | 0.27 |
| 4/14/2012 | 14:55:33 | 21.27 | 1.244 | 17.68 | 8.153 | 4.64 | 100.8 | -294 | 3 | 0.27 |
| 4/14/2012 | 15:00:33 | 21.27 | 1.244 | 17.68 | 8.153 | 4.64 | 100.6 | -294 | 3 | 0.26 |
| 4/14/2012 | 15:05:33 | 21.27 | 1.244 | 17.68 | 8.152 | 4.64 | 100.6 | -294 | 3 | 0.26 |
| 4/14/2012 | 15:10:33 | 21.27 | 1.244 | 17.68 | 8.155 | 4.64 | 100.7 | -294 | 3 | 0.27 |
| 4/14/2012 | 15:15:33 | 21.27 | 1.244 | 17.68 | 8.154 | 4.64 | 101 | -294 | 3 | 0.27 |
| 4/14/2012 | 15:20:33 | 21.27 | 1.244 | 17.68 | 8.155 | 4.63 | 101.3 | -294 | 3 | 0.27 |
| 4/14/2012 | 15:25:33 | 21.27 | 1.244 | 17.68 | 8.158 | 4.63 | 101.6 | -294 | 3 | 0.26 |
| 4/14/2012 | 15:30:33 | 21.27 | 1.244 | 17.68 | 8.157 | 4.62 | 101.7 | -294 | 3 | 0.27 |
| 4/14/2012 | 15:35:33 | 21.27 | 1.244 | 17.68 | 8.157 | 4.61 | 102.3 | -294 | 3 | 0.26 |
| 4/14/2012 | 15:40:33 | 21.27 | 1.245 | 17.68 | 8.159 | 4.62 | 102.1 | -294 | 3 | 0.27 |
| 4/14/2012 | 15:45:33 | 21.27 | 1.245 | 17.68 | 8.16 | 4.61 | 102.4 | -294 | 3 | 0.27 |
| 4/14/2012 | 15:50:33 | 21.27 | 1.245 | 17.68 | 8.159 | 4.6 | 102.8 | -294 | 3 | 0.27 |
| 4/14/2012 | 15:55:33 | 21.27 | 1.245 | 17.68 | 8.162 | 4.6 | 102.8 | -294 | 3 | 0.27 |
| 4/14/2012 | 16:00:33 | 21.27 | 1.245 | 17.68 | 8.165 | 4.6 | 103 | -295 | 3 | 0.26 |
| 4/14/2012 | 16:05:33 | 21.27 | 1.245 | 17.68 | 8.166 | 4.6 | 103 | -295 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 16:10:33 | 21.27 | 1.245 | 17.69 | 8.17 | 4.6 | 103.1 | -295 | 3 | 0.26 |
| 4/14/2012 | 16:15:33 | 21.27 | 1.245 | 17.69 | 8.171 | 4.6 | 103.1 | -295 | 3 | 0.27 |
| 4/14/2012 | 16:20:33 | 21.27 | 1.246 | 17.69 | 8.175 | 4.6 | 103.1 | -295 | 3 | 0.27 |
| 4/14/2012 | 16:25:33 | 21.27 | 1.245 | 17.69 | 8.177 | 4.6 | 103.1 | -295 | 3 | 0.26 |
| 4/14/2012 | 16:30:33 | 21.27 | 1.245 | 17.69 | 8.176 | 4.6 | 103 | -295 | 3 | 0.27 |
| 4/14/2012 | 16:35:33 | 21.27 | 1.245 | 17.69 | 8.179 | 4.6 | 103 | -295 | 3 | 0.27 |
| 4/14/2012 | 16:40:33 | 21.27 | 1.245 | 17.69 | 8.182 | 4.6 | 103 | -295 | 3 | 0.27 |
| 4/14/2012 | 16:45:33 | 21.27 | 1.246 | 17.69 | 8.186 | 4.6 | 103 | -296 | 3 | 0.27 |
| 4/14/2012 | 16:50:33 | 21.27 | 1.246 | 17.69 | 8.189 | 4.6 | 102.9 | -296 | 3 | 0.27 |
| 4/14/2012 | 16:55:33 | 21.27 | 1.246 | 17.7 | 8.194 | 4.6 | 103 | -296 | 3 | 0.27 |
| 4/14/2012 | 17:00:33 | 21.27 | 1.246 | 17.7 | 8.193 | 4.6 | 103.2 | -296 | 3 | 0.27 |
| 4/14/2012 | 17:05:33 | 21.27 | 1.246 | 17.7 | 8.198 | 4.6 | 103.1 | -296 | 3 | 0.27 |
| 4/14/2012 | 17:10:33 | 21.27 | 1.246 | 17.7 | 8.198 | 4.6 | 103 | -296 | 3 | 0.27 |
| 4/14/2012 | 17:15:33 | 21.27 | 1.246 | 17.7 | 8.201 | 4.6 | 103.3 | -296 | 3 | 0.27 |
| 4/14/2012 | 17:20:33 | 21.27 | 1.246 | 17.7 | 8.206 | 4.6 | 103.3 | -296 | 3 | 0.27 |
| 4/14/2012 | 17:25:33 | 21.27 | 1.246 | 17.7 | 8.208 | 4.59 | 103.4 | -296 | 3 | 0.27 |
| 4/14/2012 | 17:30:33 | 21.27 | 1.246 | 17.7 | 8.211 | 4.59 | 103.5 | -296 | 3 | 0.27 |
| 4/14/2012 | 17:35:33 | 21.27 | 1.247 | 17.71 | 8.216 | 4.59 | 103.6 | -296 | 3 | 0.27 |
| 4/14/2012 | 17:40:33 | 21.27 | 1.247 | 17.71 | 8.218 | 4.59 | 103.7 | -296 | 3 | 0.27 |
| 4/14/2012 | 17:45:33 | 21.27 | 1.247 | 17.71 | 8.217 | 4.59 | 103.8 | -296 | 3 | 0.27 |
| 4/14/2012 | 17:50:33 | 21.27 | 1.247 | 17.71 | 8.223 | 4.58 | 103.9 | -296 | 3 | 0.26 |
| 4/14/2012 | 17:55:33 | 21.27 | 1.247 | 17.71 | 8.225 | 4.58 | 103.9 | -296 | 3 | 0.27 |
| 4/14/2012 | 18:00:33 | 21.28 | 1.247 | 17.71 | 8.227 | 4.58 | 103.9 | -296 | 3 | 0.27 |
| 4/14/2012 | 18:05:33 | 21.28 | 1.248 | 17.71 | 8.231 | 4.58 | 103.9 | -296 | 3 | 0.27 |
| 4/14/2012 | 18:10:33 | 21.28 | 1.248 | 17.71 | 8.232 | 4.58 | 103.9 | -297 | 3 | 0.27 |
| 4/14/2012 | 18:15:33 | 21.28 | 1.247 | 17.71 | 8.237 | 4.58 | 104 | -297 | 3 | 0.27 |
| 4/14/2012 | 18:20:33 | 21.28 | 1.248 | 17.71 | 8.238 | 4.58 | 104.1 | -297 | 3 | 0.27 |
| 4/14/2012 | 18:25:33 | 21.28 | 1.248 | 17.72 | 8.24 | 4.58 | 104.2 | -297 | 3 | 0.27 |
| 4/14/2012 | 18:30:33 | 21.28 | 1.248 | 17.72 | 8.241 | 4.58 | 104.3 | -297 | 3 | 0.27 |
| 4/14/2012 | 18:35:33 | 21.28 | 1.248 | 17.72 | 8.243 | 4.58 | 104.3 | -297 | 3 | 0.27 |
| 4/14/2012 | 18:40:33 | 21.28 | 1.248 | 17.72 | 8.245 | 4.58 | 104.4 | -297 | 3 | 0.26 |
| 4/14/2012 | 18:45:33 | 21.28 | 1.248 | 17.72 | 8.245 | 4.58 | 104.4 | -297 | 3 | 0.26 |
| 4/14/2012 | 18:50:33 | 21.28 | 1.248 | 17.72 | 8.246 | 4.58 | 104.4 | -297 | 3 | 0.27 |
| 4/14/2012 | 18:55:33 | 21.28 | 1.248 | 17.72 | 8.248 | 4.57 | 104.5 | -297 | 3 | 0.27 |
| 4/14/2012 | 19:00:33 | 21.28 | 1.248 | 17.72 | 8.248 | 4.57 | 104.6 | -297 | 3 | 0.27 |
| 4/14/2012 | 19:05:33 | 21.28 | 1.248 | 17.72 | 8.248 | 4.57 | 104.7 | -297 | 3 | 0.27 |
| 4/14/2012 | 19:10:33 | 21.28 | 1.248 | 17.72 | 8.248 | 4.57 | 104.7 | -297 | 3 | 0.27 |
| 4/14/2012 | 19:15:33 | 21.28 | 1.249 | 17.72 | 8.248 | 4.57 | 104.8 | -298 | 3 | 0.27 |
| 4/14/2012 | 19:20:33 | 21.28 | 1.249 | 17.72 | 8.247 | 4.57 | 104.9 | -298 | 3 | 0.27 |
| 4/14/2012 | 19:25:33 | 21.28 | 1.249 | 17.72 | 8.245 | 4.57 | 104.9 | -298 | 3 | 0.27 |
| 4/14/2012 | 19:30:33 | 21.28 | 1.249 | 17.72 | 8.244 | 4.57 | 104.9 | -298 | 3 | 0.27 |
| 4/14/2012 | 19:35:33 | 21.28 | 1.249 | 17.72 | 8.242 | 4.57 | 104.9 | -298 | 3 | 0.27 |
| 4/14/2012 | 19:40:33 | 21.28 | 1.249 | 17.72 | 8.24 | 4.57 | 104.9 | -298 | 3 | 0.27 |
| 4/14/2012 | 19:45:33 | 21.28 | 1.249 | 17.71 | 8.237 | 4.57 | 104.9 | -298 | 3 | 0.27 |
| 4/14/2012 | 19:50:33 | 21.28 | 1.25 | 17.71 | 8.236 | 4.57 | 104.9 | -298 | 3 | 0.27 |
| 4/14/2012 | 19:55:33 | 21.28 | 1.25 | 17.71 | 8.232 | 4.57 | 104.9 | -298 | 3 | 0.27 |
| 4/14/2012 | 20:00:33 | 21.28 | 1.25 | 17.71 | 8.23 | 4.57 | 104.7 | -298 | 3 | 0.26 |
| 4/14/2012 | 20:05:33 | 21.28 | 1.25 | 17.71 | 8.225 | 4.57 | 104.7 | -298 | 3 | 0.27 |
| 4/14/2012 | 20:10:33 | 21.28 | 1.25 | 17.71 | 8.223 | 4.57 | 104.7 | -298 | 3 | 0.27 |
| 4/14/2012 | 20:15:33 | 21.28 | 1.25 | 17.71 | 8.221 | 4.57 | 104.7 | -298 | 3 | 0.27 |
| 4/14/2012 | 20:20:33 | 21.28 | 1.25 | 17.71 | 8.217 | 4.57 | 104.7 | -298 | 3 | 0.27 |
| 4/14/2012 | 20:25:33 | 21.28 | 1.251 | 17.71 | 8.215 | 4.57 | 104.8 | -298 | 3 | 0.27 |
| 4/14/2012 | 20:30:33 | 21.28 | 1.251 | 17.7 | 8.211 | 4.57 | 104.7 | -298 | 3 | 0.27 |
| 4/14/2012 | 20:35:33 | 21.28 | 1.251 | 17.7 | 8.208 | 4.57 | 104.7 | -299 | 3 | 0.27 |
| 4/14/2012 | 20:40:33 | 21.28 | 1.251 | 17.7 | 8.207 | 4.57 | 104.7 | -299 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/14/2012 | 20:45:33 | 21.28 | 1.251 | 17.7 | 8.201 | 4.57 | 104.8 | -299 | 3 | 0.27 |
| 4/14/2012 | 20:50:33 | 21.28 | 1.251 | 17.7 | 8.2 | 4.57 | 104.9 | -299 | 3 | 0.27 |
| 4/14/2012 | 20:55:33 | 21.28 | 1.251 | 17.7 | 8.195 | 4.57 | 104.8 | -299 | 3 | 0.27 |
| 4/14/2012 | 21:00:33 | 21.28 | 1.251 | 17.7 | 8.192 | 4.57 | 104.7 | -299 | 3 | 0.27 |
| 4/14/2012 | 21:05:33 | 21.28 | 1.251 | 17.69 | 8.188 | 4.57 | 104.8 | -299 | 3 | 0.27 |
| 4/14/2012 | 21:10:33 | 21.28 | 1.251 | 17.69 | 8.185 | 4.57 | 104.7 | -299 | 3 | 0.27 |
| 4/14/2012 | 21:15:33 | 21.28 | 1.252 | 17.69 | 8.182 | 4.57 | 104.7 | -299 | 3 | 0.27 |
| 4/14/2012 | 21:20:33 | 21.28 | 1.252 | 17.69 | 8.178 | 4.57 | 104.8 | -299 | 3 | 0.27 |
| 4/14/2012 | 21:25:33 | 21.28 | 1.252 | 17.69 | 8.173 | 4.57 | 104.8 | -299 | 3 | 0.27 |
| 4/14/2012 | 21:30:33 | 21.28 | 1.252 | 17.69 | 8.171 | 4.57 | 104.8 | -300 | 3 | 0.27 |
| 4/14/2012 | 21:35:33 | 21.28 | 1.252 | 17.68 | 8.168 | 4.57 | 104.9 | -300 | 3 | 0.26 |
| 4/14/2012 | 21:40:33 | 21.28 | 1.252 | 17.68 | 8.165 | 4.57 | 104.9 | -300 | 3 | 0.27 |
| 4/14/2012 | 21:45:33 | 21.28 | 1.252 | 17.68 | 8.159 | 4.57 | 104.9 | -300 | 3 | 0.27 |
| 4/14/2012 | 21:50:33 | 21.28 | 1.252 | 17.68 | 8.157 | 4.56 | 105 | -300 | 3 | 0.27 |
| 4/14/2012 | 21:55:33 | 21.28 | 1.252 | 17.68 | 8.155 | 4.56 | 105 | -300 | 3 | 0.27 |
| 4/14/2012 | 22:00:33 | 21.28 | 1.252 | 17.68 | 8.152 | 4.57 | 105 | -300 | 3 | 0.26 |
| 4/14/2012 | 22:05:33 | 21.28 | 1.252 | 17.68 | 8.148 | 4.57 | 104.9 | -301 | 3 | 0.27 |
| 4/14/2012 | 22:10:33 | 21.28 | 1.253 | 17.67 | 8.146 | 4.57 | 104.9 | -301 | 3 | 0.26 |
| 4/14/2012 | 22:15:33 | 21.28 | 1.252 | 17.67 | 8.142 | 4.57 | 104.9 | -301 | 3 | 0.26 |
| 4/14/2012 | 22:20:33 | 21.28 | 1.252 | 17.67 | 8.138 | 4.57 | 104.9 | -301 | 3 | 0.27 |
| 4/14/2012 | 22:25:33 | 21.28 | 1.252 | 17.67 | 8.135 | 4.57 | 104.7 | -301 | 3 | 0.26 |
| 4/14/2012 | 22:30:33 | 21.29 | 1.252 | 17.67 | 8.132 | 4.57 | 104.7 | -301 | 3 | 0.26 |
| 4/14/2012 | 22:35:33 | 21.29 | 1.252 | 17.67 | 8.13 | 4.57 | 104.5 | -301 | 3 | 0.26 |
| 4/14/2012 | 22:40:33 | 21.29 | 1.252 | 17.67 | 8.127 | 4.57 | 104.4 | -301 | 3 | 0.27 |
| 4/14/2012 | 22:45:33 | 21.29 | 1.251 | 17.67 | 8.123 | 4.58 | 104.2 | -301 | 3 | 0.26 |
| 4/14/2012 | 22:50:33 | 21.29 | 1.25 | 17.66 | 8.119 | 4.58 | 103.9 | -301 | 3 | 0.26 |
| 4/14/2012 | 22:55:33 | 21.29 | 1.25 | 17.66 | 8.116 | 4.59 | 103.7 | -301 | 3 | 0.26 |
| 4/14/2012 | 23:00:33 | 21.29 | 1.25 | 17.66 | 8.113 | 4.59 | 103.6 | -301 | 3 | 0.27 |
| 4/14/2012 | 23:05:33 | 21.29 | 1.249 | 17.66 | 8.11 | 4.59 | 103.6 | -301 | 3 | 0.26 |
| 4/14/2012 | 23:10:33 | 21.29 | 1.249 | 17.66 | 8.109 | 4.59 | 103.5 | -301 | 3 | 0.26 |
| 4/14/2012 | 23:15:33 | 21.29 | 1.248 | 17.66 | 8.107 | 4.59 | 103.6 | -302 | 3 | 0.26 |
| 4/14/2012 | 23:20:33 | 21.29 | 1.249 | 17.66 | 8.105 | 4.59 | 103.7 | -302 | 3 | 0.26 |
| 4/14/2012 | 23:25:33 | 21.29 | 1.248 | 17.66 | 8.103 | 4.58 | 103.9 | -302 | 3 | 0.26 |
| 4/14/2012 | 23:30:33 | 21.29 | 1.247 | 17.66 | 8.102 | 4.59 | 103.5 | -302 | 3 | 0.26 |
| 4/14/2012 | 23:35:33 | 21.29 | 1.247 | 17.66 | 8.102 | 4.59 | 103.4 | -302 | 3 | 0.27 |
| 4/14/2012 | 23:40:33 | 21.29 | 1.246 | 17.66 | 8.1 | 4.6 | 103.2 | -302 | 3 | 0.26 |
| 4/14/2012 | 23:45:33 | 21.29 | 1.245 | 17.65 | 8.099 | 4.6 | 103.1 | -302 | 3 | 0.26 |
| 4/14/2012 | 23:50:33 | 21.29 | 1.244 | 17.65 | 8.096 | 4.6 | 103 | -302 | 3 | 0.27 |
| 4/14/2012 | 23:55:33 | 21.29 | 1.243 | 17.65 | 8.093 | 4.6 | 103 | -302 | 3 | 0.26 |
| 4/15/2012 | 0:00:33 | 21.29 | 1.242 | 17.65 | 8.091 | 4.6 | 103 | -302 | 3 | 0.26 |
| 4/15/2012 | 0:05:33 | 21.29 | 1.242 | 17.65 | 8.089 | 4.6 | 103.1 | -303 | 3 | 0.26 |
| 4/15/2012 | 0:10:33 | 21.29 | 1.241 | 17.65 | 8.087 | 4.6 | 103.2 | -303 | 3 | 0.26 |
| 4/15/2012 | 0:15:33 | 21.29 | 1.241 | 17.65 | 8.086 | 4.6 | 103.3 | -303 | 3 | 0.26 |
| 4/15/2012 | 0:20:33 | 21.29 | 1.24 | 17.65 | 8.082 | 4.6 | 103.1 | -303 | 3 | 0.26 |
| 4/15/2012 | 0:25:33 | 21.29 | 1.24 | 17.65 | 8.081 | 4.6 | 103.1 | -303 | 3 | 0.26 |
| 4/15/2012 | 0:30:33 | 21.29 | 1.239 | 17.65 | 8.081 | 4.6 | 103.2 | -303 | 3 | 0.27 |
| 4/15/2012 | 0:35:33 | 21.29 | 1.238 | 17.65 | 8.081 | 4.59 | 103.4 | -304 | 3 | 0.26 |
| 4/15/2012 | 0:40:33 | 21.29 | 1.238 | 17.65 | 8.079 | 4.59 | 103.4 | -304 | 3 | 0.26 |
| 4/15/2012 | 0:45:33 | 21.29 | 1.237 | 17.65 | 8.079 | 4.59 | 103.5 | -304 | 3 | 0.26 |
| 4/15/2012 | 0:50:33 | 21.29 | 1.236 | 17.65 | 8.078 | 4.59 | 103.6 | -304 | 3 | 0.26 |
| 4/15/2012 | 0:55:33 | 21.29 | 1.236 | 17.65 | 8.08 | 4.59 | 103.5 | -304 | 3 | 0.26 |
| 4/15/2012 | 1:00:33 | 21.29 | 1.235 | 17.65 | 8.077 | 4.59 | 103.3 | -304 | 3 | 0.26 |
| 4/15/2012 | 1:05:33 | 21.29 | 1.235 | 17.64 | 8.075 | 4.59 | 103.3 | -304 | 3 | 0.26 |
| 4/15/2012 | 1:10:33 | 21.29 | 1.235 | 17.65 | 8.076 | 4.59 | 103.3 | -304 | 3 | 0.26 |
| 4/15/2012 | 1:15:33 | 21.29 | 1.234 | 17.64 | 8.074 | 4.59 | 103.3 | -304 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 1:20:33 | 21.29 | 1.233 | 17.64 | 8.073 | 4.59 | 103.3 | -305 | 3 | 0.26 |
| 4/15/2012 | 1:25:33 | 21.29 | 1.233 | 17.64 | 8.073 | 4.59 | 103.3 | -305 | 3 | 0.26 |
| 4/15/2012 | 1:30:33 | 21.29 | 1.232 | 17.64 | 8.071 | 4.59 | 103.5 | -305 | 3 | 0.26 |
| 4/15/2012 | 1:35:33 | 21.29 | 1.231 | 17.64 | 8.07 | 4.6 | 103.3 | -305 | 3 | 0.26 |
| 4/15/2012 | 1:40:33 | 21.29 | 1.23 | 17.64 | 8.069 | 4.6 | 103.1 | -306 | 3 | 0.27 |
| 4/15/2012 | 1:45:33 | 21.29 | 1.23 | 17.64 | 8.07 | 4.6 | 103 | -306 | 3 | 0.27 |
| 4/15/2012 | 1:50:33 | 21.29 | 1.23 | 17.64 | 8.069 | 4.6 | 103 | -306 | 3 | 0.26 |
| 4/15/2012 | 1:55:33 | 21.29 | 1.23 | 17.64 | 8.066 | 4.6 | 103 | -306 | 3 | 0.27 |
| 4/15/2012 | 2:00:33 | 21.29 | 1.23 | 17.64 | 8.064 | 4.6 | 103 | -306 | 3 | 0.27 |
| 4/15/2012 | 2:05:33 | 21.29 | 1.229 | 17.64 | 8.064 | 4.6 | 103 | -307 | 3 | 0.26 |
| 4/15/2012 | 2:10:33 | 21.29 | 1.229 | 17.64 | 8.063 | 4.6 | 103 | -307 | 3 | 0.26 |
| 4/15/2012 | 2:15:33 | 21.29 | 1.23 | 17.64 | 8.063 | 4.6 | 103.1 | -307 | 3 | 0.26 |
| 4/15/2012 | 2:20:33 | 21.29 | 1.23 | 17.64 | 8.061 | 4.6 | 103.1 | -307 | 3 | 0.27 |
| 4/15/2012 | 2:25:33 | 21.29 | 1.229 | 17.64 | 8.06 | 4.6 | 103 | -307 | 3 | 0.26 |
| 4/15/2012 | 2:30:33 | 21.29 | 1.229 | 17.64 | 8.059 | 4.6 | 103.1 | -307 | 3 | 0.27 |
| 4/15/2012 | 2:35:33 | 21.29 | 1.229 | 17.64 | 8.06 | 4.59 | 103.6 | -307 | 3 | 0.27 |
| 4/15/2012 | 2:40:33 | 21.29 | 1.229 | 17.64 | 8.06 | 4.59 | 103.8 | -308 | 3 | 0.26 |
| 4/15/2012 | 2:45:33 | 21.29 | 1.229 | 17.64 | 8.061 | 4.58 | 104.2 | -308 | 3 | 0.26 |
| 4/15/2012 | 2:50:33 | 21.29 | 1.229 | 17.64 | 8.059 | 4.58 | 104.4 | -308 | 3 | 0.27 |
| 4/15/2012 | 2:55:33 | 21.29 | 1.229 | 17.64 | 8.06 | 4.57 | 104.6 | -308 | 3 | 0.27 |
| 4/15/2012 | 3:00:33 | 21.29 | 1.229 | 17.64 | 8.06 | 4.57 | 104.6 | -308 | 3 | 0.26 |
| 4/15/2012 | 3:05:33 | 21.29 | 1.228 | 17.64 | 8.062 | 4.57 | 104.6 | -308 | 3 | 0.26 |
| 4/15/2012 | 3:10:33 | 21.29 | 1.228 | 17.64 | 8.062 | 4.57 | 104.7 | -309 | 3 | 0.26 |
| 4/15/2012 | 3:15:33 | 21.29 | 1.228 | 17.64 | 8.061 | 4.57 | 104.9 | -309 | 3 | 0.26 |
| 4/15/2012 | 3:20:33 | 21.29 | 1.228 | 17.64 | 8.061 | 4.57 | 104.6 | -309 | 3 | 0.27 |
| 4/15/2012 | 3:25:33 | 21.29 | 1.228 | 17.64 | 8.063 | 4.57 | 104.7 | -309 | 3 | 0.27 |
| 4/15/2012 | 3:30:33 | 21.29 | 1.228 | 17.64 | 8.064 | 4.57 | 104.9 | -310 | 3 | 0.26 |
| 4/15/2012 | 3:35:33 | 21.29 | 1.228 | 17.64 | 8.064 | 4.57 | 104.9 | -310 | 3 | 0.27 |
| 4/15/2012 | 3:40:33 | 21.29 | 1.228 | 17.64 | 8.065 | 4.56 | 105.2 | -310 | 3 | 0.26 |
| 4/15/2012 | 3:45:33 | 21.29 | 1.228 | 17.64 | 8.069 | 4.56 | 105.2 | -311 | 3 | 0.27 |
| 4/15/2012 | 3:50:33 | 21.29 | 1.228 | 17.64 | 8.069 | 4.56 | 105.4 | -311 | 3 | 0.26 |
| 4/15/2012 | 3:55:33 | 21.29 | 1.228 | 17.64 | 8.071 | 4.56 | 105.5 | -311 | 3 | 0.26 |
| 4/15/2012 | 4:00:33 | 21.29 | 1.228 | 17.64 | 8.073 | 4.56 | 105.5 | -311 | 3 | 0.27 |
| 4/15/2012 | 4:05:33 | 21.29 | 1.228 | 17.64 | 8.074 | 4.55 | 105.7 | -312 | 3 | 0.26 |
| 4/15/2012 | 4:10:33 | 21.29 | 1.228 | 17.65 | 8.077 | 4.55 | 105.8 | -312 | 3 | 0.26 |
| 4/15/2012 | 4:15:33 | 21.29 | 1.228 | 17.65 | 8.079 | 4.55 | 106.1 | -312 | 3 | 0.26 |
| 4/15/2012 | 4:20:33 | 21.29 | 1.228 | 17.65 | 8.081 | 4.54 | 106.3 | -312 | 3 | 0.27 |
| 4/15/2012 | 4:25:33 | 21.29 | 1.228 | 17.65 | 8.084 | 4.54 | 106.6 | -312 | 3 | 0.27 |
| 4/15/2012 | 4:30:33 | 21.29 | 1.227 | 17.65 | 8.084 | 4.53 | 106.8 | -313 | 3 | 0.26 |
| 4/15/2012 | 4:35:33 | 21.29 | 1.227 | 17.65 | 8.087 | 4.53 | 106.8 | -313 | 3 | 0.27 |
| 4/15/2012 | 4:40:33 | 21.29 | 1.227 | 17.65 | 8.086 | 4.53 | 106.8 | -313 | 3 | 0.26 |
| 4/15/2012 | 4:45:33 | 21.29 | 1.227 | 17.65 | 8.09 | 4.53 | 106.8 | -313 | 3 | 0.27 |
| 4/15/2012 | 4:50:33 | 21.29 | 1.227 | 17.65 | 8.091 | 4.54 | 106.6 | -314 | 3 | 0.27 |
| 4/15/2012 | 4:55:33 | 21.29 | 1.227 | 17.65 | 8.094 | 4.54 | 106.6 | -314 | 3 | 0.27 |
| 4/15/2012 | 5:00:33 | 21.29 | 1.228 | 17.65 | 8.096 | 4.54 | 106.5 | -314 | 3 | 0.27 |
| 4/15/2012 | 5:05:33 | 21.29 | 1.227 | 17.65 | 8.098 | 4.54 | 106.6 | -314 | 3 | 0.27 |
| 4/15/2012 | 5:10:33 | 21.29 | 1.227 | 17.66 | 8.102 | 4.54 | 106.6 | -315 | 3 | 0.27 |
| 4/15/2012 | 5:15:33 | 21.29 | 1.227 | 17.66 | 8.105 | 4.53 | 106.9 | -315 | 3 | 0.26 |
| 4/15/2012 | 5:20:33 | 21.29 | 1.227 | 17.66 | 8.108 | 4.53 | 106.8 | -315 | 3 | 0.26 |
| 4/15/2012 | 5:25:33 | 21.29 | 1.227 | 17.66 | 8.11 | 4.53 | 106.8 | -315 | 3 | 0.27 |
| 4/15/2012 | 5:30:33 | 21.29 | 1.227 | 17.66 | 8.113 | 4.54 | 106.6 | -316 | 3 | 0.27 |
| 4/15/2012 | 5:35:33 | 21.29 | 1.228 | 17.66 | 8.113 | 4.54 | 106.3 | -316 | 3 | 0.27 |
| 4/15/2012 | 5:40:33 | 21.29 | 1.228 | 17.66 | 8.118 | 4.55 | 106 | -316 | 3 | 0.26 |
| 4/15/2012 | 5:45:33 | 21.29 | 1.228 | 17.66 | 8.119 | 4.55 | 106 | -316 | 3 | 0.27 |
| 4/15/2012 | 5:50:33 | 21.29 | 1.229 | 17.67 | 8.124 | 4.55 | 106 | -316 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 5:55:33 | 21.29 | 1.229 | 17.67 | 8.127 | 4.55 | 105.8 | -317 | 3 | 0.27 |
| 4/15/2012 | 6:00:33 | 21.29 | 1.229 | 17.67 | 8.131 | 4.55 | 105.6 | -317 | 3 | 0.27 |
| 4/15/2012 | 6:05:33 | 21.3 | 1.23 | 17.67 | 8.134 | 4.56 | 105.5 | -318 | 3 | 0.27 |
| 4/15/2012 | 6:10:33 | 21.3 | 1.23 | 17.67 | 8.136 | 4.56 | 105.3 | -318 | 3 | 0.27 |
| 4/15/2012 | 6:15:33 | 21.3 | 1.23 | 17.67 | 8.138 | 4.56 | 105.3 | -318 | 3 | 0.27 |
| 4/15/2012 | 6:20:33 | 21.3 | 1.231 | 17.67 | 8.142 | 4.56 | 105.3 | -319 | 3 | 0.27 |
| 4/15/2012 | 6:25:33 | 21.3 | 1.231 | 17.67 | 8.144 | 4.56 | 105.3 | -319 | 3 | 0.26 |
| 4/15/2012 | 6:30:33 | 21.3 | 1.231 | 17.68 | 8.147 | 4.56 | 105.5 | -319 | 3 | 0.27 |
| 4/15/2012 | 6:35:33 | 21.3 | 1.231 | 17.68 | 8.147 | 4.55 | 105.5 | -320 | 3 | 0.27 |
| 4/15/2012 | 6:40:33 | 21.3 | 1.231 | 17.68 | 8.152 | 4.55 | 105.7 | -320 | 3 | 0.27 |
| 4/15/2012 | 6:45:33 | 21.3 | 1.231 | 17.68 | 8.153 | 4.55 | 105.7 | -320 | 3 | 0.27 |
| 4/15/2012 | 6:50:33 | 21.3 | 1.231 | 17.68 | 8.156 | 4.55 | 105.8 | -321 | 3 | 0.26 |
| 4/15/2012 | 6:55:33 | 21.3 | 1.232 | 17.68 | 8.158 | 4.55 | 105.8 | -321 | 3 | 0.27 |
| 4/15/2012 | 7:00:33 | 21.3 | 1.232 | 17.68 | 8.158 | 4.55 | 105.8 | -322 | 3 | 0.27 |
| 4/15/2012 | 7:05:33 | 21.3 | 1.232 | 17.68 | 8.16 | 4.55 | 105.9 | -322 | 3 | 0.27 |
| 4/15/2012 | 7:10:33 | 21.3 | 1.232 | 17.68 | 8.161 | 4.55 | 106 | -322 | 3 | 0.27 |
| 4/15/2012 | 7:15:33 | 21.3 | 1.233 | 17.68 | 8.164 | 4.55 | 106 | -323 | 3 | 0.27 |
| 4/15/2012 | 7:20:33 | 21.3 | 1.233 | 17.68 | 8.166 | 4.55 | 106 | -323 | 3 | 0.27 |
| 4/15/2012 | 7:25:33 | 21.3 | 1.234 | 17.69 | 8.169 | 4.55 | 106 | -323 | 3 | 0.27 |
| 4/15/2012 | 7:30:33 | 21.3 | 1.234 | 17.69 | 8.169 | 4.55 | 106 | -324 | 3 | 0.27 |
| 4/15/2012 | 7:35:33 | 21.3 | 1.234 | 17.69 | 8.17 | 4.55 | 106.1 | -324 | 3 | 0.27 |
| 4/15/2012 | 7:40:33 | 21.3 | 1.234 | 17.69 | 8.173 | 4.55 | 106.1 | -324 | 3 | 0.27 |
| 4/15/2012 | 7:45:33 | 21.3 | 1.234 | 17.69 | 8.172 | 4.55 | 106.1 | -324 | 3 | 0.27 |
| 4/15/2012 | 7:50:33 | 21.3 | 1.235 | 17.69 | 8.173 | 4.55 | 106.1 | -324 | 3 | 0.27 |
| 4/15/2012 | 7:55:33 | 21.3 | 1.235 | 17.69 | 8.173 | 4.54 | 106.1 | -324 | 3 | 0.27 |
| 4/15/2012 | 8:00:33 | 21.3 | 1.235 | 17.69 | 8.175 | 4.54 | 106.2 | -325 | 3 | 0.27 |
| 4/15/2012 | 8:05:33 | 21.3 | 1.235 | 17.69 | 8.174 | 4.54 | 106.3 | -325 | 3 | 0.27 |
| 4/15/2012 | 8:10:33 | 21.3 | 1.235 | 17.69 | 8.172 | 4.54 | 106.3 | -325 | 3 | 0.27 |
| 4/15/2012 | 8:15:33 | 21.3 | 1.235 | 17.69 | 8.171 | 4.54 | 106.3 | -325 | 3 | 0.27 |
| 4/15/2012 | 8:20:33 | 21.3 | 1.235 | 17.69 | 8.171 | 4.54 | 106.2 | -325 | 3 | 0.26 |
| 4/15/2012 | 8:25:33 | 21.3 | 1.235 | 17.69 | 8.171 | 4.54 | 106.3 | -326 | 3 | 0.27 |
| 4/15/2012 | 8:30:33 | 21.3 | 1.235 | 17.69 | 8.17 | 4.54 | 106.4 | -326 | 3 | 0.27 |
| 4/15/2012 | 8:35:33 | 21.3 | 1.236 | 17.69 | 8.168 | 4.54 | 106.5 | -326 | 3 | 0.27 |
| 4/15/2012 | 8:40:33 | 21.3 | 1.236 | 17.68 | 8.164 | 4.54 | 106.6 | -327 | 3 | 0.26 |
| 4/15/2012 | 8:45:33 | 21.3 | 1.236 | 17.68 | 8.162 | 4.54 | 106.6 | -327 | 3 | 0.27 |
| 4/15/2012 | 8:50:33 | 21.3 | 1.236 | 17.68 | 8.16 | 4.54 | 106.7 | -328 | 3 | 0.27 |
| 4/15/2012 | 8:55:33 | 21.3 | 1.237 | 17.68 | 8.159 | 4.53 | 106.8 | -328 | 3 | 0.27 |
| 4/15/2012 | 9:00:33 | 21.3 | 1.237 | 17.68 | 8.156 | 4.53 | 106.8 | -329 | 3 | 0.27 |
| 4/15/2012 | 9:05:33 | 21.3 | 1.237 | 17.68 | 8.156 | 4.53 | 106.8 | -329 | 3 | 0.27 |
| 4/15/2012 | 9:10:33 | 21.3 | 1.237 | 17.68 | 8.149 | 4.53 | 106.8 | -329 | 3 | 0.27 |
| 4/15/2012 | 9:15:33 | 21.3 | 1.237 | 17.68 | 8.148 | 4.53 | 106.9 | -329 | 3 | 0.27 |
| 4/15/2012 | 9:20:33 | 21.3 | 1.237 | 17.67 | 8.145 | 4.53 | 106.9 | -330 | 3 | 0.27 |
| 4/15/2012 | 9:25:33 | 21.3 | 1.237 | 17.67 | 8.143 | 4.53 | 106.9 | -330 | 3 | 0.27 |
| 4/15/2012 | 9:30:33 | 21.3 | 1.237 | 17.67 | 8.137 | 4.53 | 107 | -331 | 3 | 0.27 |
| 4/15/2012 | 9:35:33 | 21.3 | 1.238 | 17.67 | 8.136 | 4.53 | 107.1 | -331 | 3 | 0.27 |
| 4/15/2012 | 9:40:33 | 21.3 | 1.237 | 17.67 | 8.138 | 4.53 | 107.1 | -331 | 3 | 0.27 |
| 4/15/2012 | 9:45:33 | 21.3 | 1.238 | 17.67 | 8.137 | 4.53 | 107 | -331 | 3 | 0.27 |
| 4/15/2012 | 9:50:33 | 21.3 | 1.237 | 17.67 | 8.133 | 4.53 | 106.9 | -332 | 3 | 0.27 |
| 4/15/2012 | 9:55:33 | 21.3 | 1.238 | 17.67 | 8.13 | 4.53 | 106.9 | -332 | 3 | 0.27 |
| 4/15/2012 | 10:00:33 | 21.3 | 1.239 | 17.67 | 8.129 | 4.53 | 106.9 | -332 | 3 | 0.26 |
| 4/15/2012 | 10:05:33 | 21.3 | 1.24 | 17.67 | 8.127 | 4.53 | 106.8 | -332 | 3 | 0.27 |
| 4/15/2012 | 10:10:33 | 21.3 | 1.241 | 17.67 | 8.124 | 4.53 | 106.9 | -333 | 3 | 0.27 |
| 4/15/2012 | 10:15:33 | 21.3 | 1.242 | 17.66 | 8.121 | 4.53 | 106.9 | -333 | 3 | 0.27 |
| 4/15/2012 | 10:20:33 | 21.3 | 1.243 | 17.66 | 8.119 | 4.53 | 106.8 | -334 | 3 | 0.27 |
| 4/15/2012 | 10:25:33 | 21.3 | 1.243 | 17.66 | 8.117 | 4.53 | 106.8 | -334 | 3 | 0.27 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 10:30:33 | 21.3 | 1.243 | 17.66 | 8.114 | 4.53 | 106.8 | -334 | 3 | 0.26 |
| 4/15/2012 | 10:35:33 | 21.3 | 1.243 | 17.66 | 8.11 | 4.54 | 106.7 | -335 | 3 | 0.27 |
| 4/15/2012 | 10:40:33 | 21.3 | 1.243 | 17.66 | 8.106 | 4.54 | 106.7 | -335 | 3 | 0.26 |
| 4/15/2012 | 10:45:33 | 21.3 | 1.242 | 17.66 | 8.101 | 4.53 | 106.7 | -335 | 3 | 0.26 |
| 4/15/2012 | 10:50:33 | 21.3 | 1.242 | 17.66 | 8.1 | 4.53 | 106.7 | -335 | 3 | 0.26 |
| 4/15/2012 | 10:55:33 | 21.3 | 1.242 | 17.65 | 8.096 | 4.53 | 106.7 | -336 | 3 | 0.26 |
| 4/15/2012 | 11:00:33 | 21.3 | 1.242 | 17.65 | 8.094 | 4.54 | 106.6 | -336 | 3 | 0.26 |
| 4/15/2012 | 11:05:33 | 21.3 | 1.242 | 17.65 | 8.093 | 4.54 | 106.6 | -336 | 3 | 0.26 |
| 4/15/2012 | 11:10:33 | 21.31 | 1.242 | 17.65 | 8.091 | 4.54 | 106.5 | -336 | 3 | 0.26 |
| 4/15/2012 | 11:15:33 | 21.3 | 1.242 | 17.65 | 8.091 | 4.54 | 106.4 | -336 | 3 | 0.26 |
| 4/15/2012 | 11:20:33 | 21.31 | 1.242 | 17.65 | 8.089 | 4.54 | 106.3 | -337 | 3 | 0.26 |
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| 4/15/2012 | 11:35:33 | 21.31 | 1.241 | 17.65 | 8.08 | 4.55 | 106 | -338 | 3 | 0.26 |
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| 4/15/2012 | 11:45:33 | 21.31 | 1.241 | 17.64 | 8.076 | 4.55 | 105.7 | -338 | 3 | 0.26 |
| 4/15/2012 | 11:50:33 | 21.31 | 1.241 | 17.64 | 8.075 | 4.55 | 105.7 | -337 | 3 | 0.26 |
| 4/15/2012 | 11:55:33 | 21.31 | 1.242 | 17.64 | 8.075 | 4.55 | 105.7 | -337 | 3 | 0.26 |
| 4/15/2012 | 12:00:33 | 21.31 | 1.241 | 17.64 | 8.07 | 4.56 | 105.5 | -337 | 3 | 0.26 |
| 4/15/2012 | 12:05:33 | 21.31 | 1.241 | 17.64 | 8.071 | 4.56 | 105.3 | -337 | 3 | 0.26 |
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| 4/15/2012 | 12:15:33 | 21.31 | 1.241 | 17.64 | 8.063 | 4.56 | 105 | -337 | 3 | 0.26 |
| 4/15/2012 | 12:20:33 | 21.31 | 1.24 | 17.64 | 8.061 | 4.57 | 104.8 | -337 | 3 | 0.26 |
| 4/15/2012 | 12:25:33 | 21.31 | 1.24 | 17.64 | 8.062 | 4.57 | 104.6 | -337 | 3 | 0.26 |
| 4/15/2012 | 12:30:33 | 21.31 | 1.239 | 17.64 | 8.058 | 4.58 | 104.4 | -337 | 3 | 0.26 |
| 4/15/2012 | 12:35:33 | 21.31 | 1.238 | 17.64 | 8.057 | 4.58 | 104.2 | -337 | 3 | 0.26 |
| 4/15/2012 | 12:40:33 | 21.31 | 1.238 | 17.64 | 8.056 | 4.58 | 104.1 | -337 | 3 | 0.26 |
| 4/15/2012 | 12:45:33 | 21.31 | 1.238 | 17.64 | 8.056 | 4.58 | 103.9 | -338 | 3 | 0.26 |
| 4/15/2012 | 12:50:33 | 21.31 | 1.238 | 17.63 | 8.053 | 4.58 | 103.9 | -339 | 3 | 0.26 |
| 4/15/2012 | 12:55:33 | 21.31 | 1.237 | 17.63 | 8.051 | 4.58 | 104.1 | -339 | 3 | 0.26 |
| 4/15/2012 | 13:00:33 | 21.31 | 1.237 | 17.63 | 8.051 | 4.58 | 104.1 | -339 | 3 | 0.26 |
| 4/15/2012 | 13:05:33 | 21.31 | 1.236 | 17.63 | 8.05 | 4.59 | 103.8 | -339 | 3 | 0.26 |
| 4/15/2012 | 13:10:33 | 21.31 | 1.236 | 17.63 | 8.05 | 4.59 | 103.7 | -339 | 3 | 0.26 |
| 4/15/2012 | 13:15:33 | 21.31 | 1.235 | 17.63 | 8.049 | 4.6 | 103.3 | -340 | 3 | 0.26 |
| 4/15/2012 | 13:20:33 | 21.31 | 1.234 | 17.63 | 8.048 | 4.6 | 103.1 | -341 | 3 | 0.26 |
| 4/15/2012 | 13:25:33 | 21.31 | 1.234 | 17.63 | 8.046 | 4.6 | 103.2 | -341 | 3 | 0.26 |
| 4/15/2012 | 13:30:33 | 21.31 | 1.233 | 17.63 | 8.045 | 4.6 | 103.3 | -342 | 3 | 0.26 |
| 4/15/2012 | 13:35:33 | 21.31 | 1.233 | 17.63 | 8.045 | 4.6 | 103.2 | -342 | 3 | 0.26 |
| 4/15/2012 | 13:40:33 | 21.31 | 1.233 | 17.63 | 8.045 | 4.59 | 103.3 | -342 | 3 | 0.26 |
| 4/15/2012 | 13:45:33 | 21.31 | 1.232 | 17.63 | 8.043 | 4.59 | 103.5 | -343 | 3 | 0.26 |
| 4/15/2012 | 13:50:33 | 21.31 | 1.232 | 17.63 | 8.042 | 4.59 | 103.5 | -344 | 3 | 0.26 |
| 4/15/2012 | 13:55:33 | 21.31 | 1.232 | 17.63 | 8.04 | 4.59 | 103.6 | -345 | 3 | 0.26 |
| 4/15/2012 | 14:00:33 | 21.31 | 1.231 | 17.63 | 8.041 | 4.59 | 103.7 | -345 | 3 | 0.26 |
| 4/15/2012 | 14:05:33 | 21.31 | 1.232 | 17.63 | 8.038 | 4.59 | 103.6 | -346 | 3 | 0.26 |
| 4/15/2012 | 14:10:33 | 21.31 | 1.232 | 17.63 | 8.038 | 4.59 | 103.5 | -346 | 3 | 0.26 |
| 4/15/2012 | 14:15:33 | 21.31 | 1.232 | 17.63 | 8.038 | 4.59 | 103.4 | -346 | 3 | 0.26 |
| 4/15/2012 | 14:20:33 | 21.31 | 1.232 | 17.63 | 8.036 | 4.59 | 103.4 | -346 | 3 | 0.26 |
| 4/15/2012 | 14:25:33 | 21.31 | 1.23 | 17.63 | 8.036 | 4.59 | 103.4 | -346 | 3 | 0.26 |
| 4/15/2012 | 14:30:33 | 21.31 | 1.231 | 17.63 | 8.034 | 4.6 | 103.3 | -347 | 3 | 0.26 |
| 4/15/2012 | 14:35:33 | 21.31 | 1.23 | 17.63 | 8.033 | 4.6 | 103.1 | -347 | 3 | 0.26 |
| 4/15/2012 | 14:40:33 | 21.31 | 1.23 | 17.63 | 8.031 | 4.6 | 103.1 | -347 | 3 | 0.26 |
| 4/15/2012 | 14:45:33 | 21.31 | 1.229 | 17.63 | 8.03 | 4.6 | 103.2 | -347 | 3 | 0.26 |
| 4/15/2012 | 14:50:33 | 21.31 | 1.229 | 17.63 | 8.03 | 4.59 | 103.3 | -348 | 3 | 0.26 |
| 4/15/2012 | 14:55:33 | 21.31 | 1.229 | 17.63 | 8.031 | 4.59 | 103.5 | -348 | 3 | 0.27 |
| 4/15/2012 | 15:00:33 | 21.31 | 1.228 | 17.62 | 8.029 | 4.6 | 103.1 | -348 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 15:05:33 | 21.31 | 1.228 | 17.63 | 8.03 | 4.6 | 103 | -349 | 3 | 0.26 |
| 4/15/2012 | 15:10:33 | 21.31 | 1.228 | 17.63 | 8.031 | 4.6 | 102.9 | -349 | 3 | 0.26 |
| 4/15/2012 | 15:15:33 | 21.31 | 1.229 | 17.62 | 8.029 | 4.6 | 103 | -348 | 3 | 0.26 |
| 4/15/2012 | 15:20:33 | 21.31 | 1.229 | 17.62 | 8.028 | 4.59 | 103.4 | -348 | 3 | 0.26 |
| 4/15/2012 | 15:25:33 | 21.31 | 1.229 | 17.63 | 8.03 | 4.59 | 103.7 | -349 | 3 | 0.26 |
| 4/15/2012 | 15:30:33 | 21.31 | 1.229 | 17.63 | 8.03 | 4.59 | 103.8 | -349 | 3 | 0.26 |
| 4/15/2012 | 15:35:33 | 21.31 | 1.229 | 17.61 | 8.004 | 4.59 | 103.8 | -350 | 3 | 0.26 |
| 4/15/2012 | 15:40:33 | 21.31 | 1.229 | 17.62 | 8.017 | 4.58 | 104 | -350 | 3 | 0.26 |
| 4/15/2012 | 15:45:33 | 21.31 | 1.23 | 17.62 | 8.025 | 4.58 | 103.9 | -351 | 3 | 0.26 |
| 4/15/2012 | 15:50:33 | 21.31 | 1.229 | 17.62 | 8.029 | 4.59 | 103.6 | -350 | 3 | 0.26 |
| 4/15/2012 | 15:55:33 | 21.31 | 1.229 | 17.62 | 8.029 | 4.58 | 103.9 | -351 | 3 | 0.26 |
| 4/15/2012 | 16:00:33 | 21.31 | 1.23 | 17.63 | 8.031 | 4.58 | 104.3 | -351 | 3 | 0.26 |
| 4/15/2012 | 16:05:33 | 21.31 | 1.229 | 17.63 | 8.033 | 4.57 | 104.8 | -352 | 3 | 0.26 |
| 4/15/2012 | 16:10:33 | 21.31 | 1.23 | 17.63 | 8.031 | 4.56 | 105.1 | -352 | 3 | 0.26 |
| 4/15/2012 | 16:15:33 | 21.31 | 1.229 | 17.63 | 8.035 | 4.56 | 105.5 | -353 | 3 | 0.26 |
| 4/15/2012 | 16:20:33 | 21.31 | 1.23 | 17.63 | 8.037 | 4.55 | 105.6 | -353 | 3 | 0.26 |
| 4/15/2012 | 16:25:33 | 21.31 | 1.23 | 17.63 | 8.039 | 4.55 | 105.8 | -353 | 3 | 0.26 |
| 4/15/2012 | 16:30:33 | 21.31 | 1.23 | 17.63 | 8.039 | 4.55 | 105.7 | -354 | 3 | 0.26 |
| 4/15/2012 | 16:35:33 | 21.31 | 1.23 | 17.63 | 8.042 | 4.55 | 105.8 | -354 | 3 | 0.26 |
| 4/15/2012 | 16:40:33 | 21.31 | 1.23 | 17.63 | 8.043 | 4.55 | 106 | -354 | 3 | 0.26 |
| 4/15/2012 | 16:45:33 | 21.31 | 1.23 | 17.63 | 8.044 | 4.55 | 106 | -355 | 3 | 0.26 |
| 4/15/2012 | 16:50:33 | 21.31 | 1.23 | 17.63 | 8.046 | 4.55 | 106.1 | -355 | 3 | 0.26 |
| 4/15/2012 | 16:55:33 | 21.31 | 1.23 | 17.63 | 8.048 | 4.54 | 106.1 | -356 | 3 | 0.26 |
| 4/15/2012 | 17:00:33 | 21.31 | 1.23 | 17.63 | 8.053 | 4.54 | 106.3 | -356 | 3 | 0.26 |
| 4/15/2012 | 17:05:33 | 21.31 | 1.23 | 17.64 | 8.053 | 4.54 | 106.5 | -356 | 3 | 0.26 |
| 4/15/2012 | 17:10:33 | 21.31 | 1.23 | 17.64 | 8.056 | 4.53 | 106.8 | -356 | 3 | 0.27 |
| 4/15/2012 | 17:15:33 | 21.31 | 1.23 | 17.64 | 8.057 | 4.53 | 106.9 | -357 | 3 | 0.26 |
| 4/15/2012 | 17:20:33 | 21.31 | 1.23 | 17.64 | 8.06 | 4.53 | 106.8 | -357 | 3 | 0.26 |
| 4/15/2012 | 17:25:33 | 21.31 | 1.23 | 17.64 | 8.061 | 4.53 | 106.9 | -358 | 3 | 0.26 |
| 4/15/2012 | 17:30:33 | 21.31 | 1.23 | 17.64 | 8.064 | 4.53 | 107.1 | -358 | 3 | 0.26 |
| 4/15/2012 | 17:35:33 | 21.31 | 1.229 | 17.64 | 8.067 | 4.53 | 107.1 | -358 | 3 | 0.26 |
| 4/15/2012 | 17:40:33 | 21.31 | 1.229 | 17.64 | 8.07 | 4.53 | 106.9 | -358 | 3 | 0.26 |
| 4/15/2012 | 17:45:33 | 21.31 | 1.229 | 17.64 | 8.072 | 4.53 | 106.8 | -358 | 3 | 0.26 |
| 4/15/2012 | 17:50:33 | 21.31 | 1.229 | 17.64 | 8.075 | 4.54 | 106.6 | -359 | 3 | 0.26 |
| 4/15/2012 | 17:55:33 | 21.31 | 1.229 | 17.65 | 8.079 | 4.54 | 106.6 | -359 | 3 | 0.26 |
| 4/15/2012 | 18:00:33 | 21.31 | 1.229 | 17.65 | 8.081 | 4.54 | 106.6 | -359 | 3 | 0.26 |
| 4/15/2012 | 18:05:33 | 21.31 | 1.229 | 17.65 | 8.082 | 4.54 | 106.7 | -360 | 3 | 0.26 |
| 4/15/2012 | 18:10:33 | 21.31 | 1.229 | 17.65 | 8.084 | 4.53 | 106.8 | -360 | 3 | 0.26 |
| 4/15/2012 | 18:15:33 | 21.31 | 1.229 | 17.65 | 8.088 | 4.53 | 107 | -361 | 3 | 0.26 |
| 4/15/2012 | 18:20:33 | 21.31 | 1.228 | 17.65 | 8.091 | 4.53 | 107.1 | -361 | 3 | 0.27 |
| 4/15/2012 | 18:25:33 | 21.31 | 1.229 | 17.65 | 8.094 | 4.53 | 107.2 | -361 | 3 | 0.27 |
| 4/15/2012 | 18:30:33 | 21.31 | 1.229 | 17.65 | 8.097 | 4.52 | 107.4 | -362 | 3 | 0.27 |
| 4/15/2012 | 18:35:33 | 21.31 | 1.229 | 17.66 | 8.1 | 4.52 | 107.5 | -362 | 3 | 0.27 |
| 4/15/2012 | 18:40:33 | 21.31 | 1.229 | 17.66 | 8.103 | 4.52 | 107.4 | -362 | 3 | 0.26 |
| 4/15/2012 | 18:45:33 | 21.31 | 1.229 | 17.66 | 8.106 | 4.52 | 107.4 | -362 | 3 | 0.26 |
| 4/15/2012 | 18:50:33 | 21.32 | 1.229 | 17.66 | 8.108 | 4.52 | 107.4 | -363 | 3 | 0.27 |
| 4/15/2012 | 18:55:33 | 21.31 | 1.229 | 17.66 | 8.112 | 4.53 | 107.2 | -363 | 3 | 0.27 |
| 4/15/2012 | 19:00:33 | 21.31 | 1.23 | 17.66 | 8.113 | 4.53 | 107.1 | -363 | 3 | 0.26 |
| 4/15/2012 | 19:05:33 | 21.32 | 1.23 | 17.66 | 8.115 | 4.53 | 107 | -363 | 3 | 0.26 |
| 4/15/2012 | 19:10:33 | 21.32 | 1.23 | 17.66 | 8.119 | 4.53 | 107.1 | -363 | 3 | 0.27 |
| 4/15/2012 | 19:15:33 | 21.32 | 1.23 | 17.66 | 8.121 | 4.52 | 107.3 | -364 | 3 | 0.26 |
| 4/15/2012 | 19:20:33 | 21.32 | 1.23 | 17.67 | 8.124 | 4.53 | 107.2 | -364 | 3 | 0.26 |
| 4/15/2012 | 19:25:33 | 21.32 | 1.23 | 17.67 | 8.124 | 4.53 | 107.2 | -364 | 3 | 0.27 |
| 4/15/2012 | 19:30:33 | 21.32 | 1.23 | 17.67 | 8.127 | 4.53 | 107.1 | -364 | 3 | 0.27 |
| 4/15/2012 | 19:35:33 | 21.32 | 1.231 | 17.67 | 8.129 | 4.53 | 106.9 | -364 | 3 | 0.27 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/15/2012 | 19:40:33 | 21.32 | 1.231 | 17.67 | 8.132 | 4.53 | 106.8 | -365 | 3 | 0.26 |
| 4/15/2012 | 19:45:33 | 21.32 | 1.231 | 17.67 | 8.13 | 4.54 | 106.6 | -365 | 3 | 0.27 |
| 4/15/2012 | 19:50:33 | 21.32 | 1.231 | 17.67 | 8.132 | 4.54 | 106.6 | -365 | 3 | 0.26 |
| 4/15/2012 | 19:55:33 | 21.32 | 1.231 | 17.67 | 8.133 | 4.54 | 106.5 | -365 | 3 | 0.27 |
| 4/15/2012 | 20:00:33 | 21.32 | 1.231 | 17.67 | 8.133 | 4.54 | 106.5 | -365 | 3 | 0.26 |
| 4/15/2012 | 20:05:33 | 21.32 | 1.231 | 17.67 | 8.134 | 4.54 | 106.5 | -364 | 3 | 0.27 |
| 4/15/2012 | 20:10:33 | 21.32 | 1.231 | 17.67 | 8.134 | 4.54 | 106.5 | -364 | 3 | 0.27 |
| 4/15/2012 | 20:15:33 | 21.32 | 1.231 | 17.67 | 8.131 | 4.54 | 106.4 | -364 | 3 | 0.27 |
| 4/15/2012 | 20:20:33 | 21.32 | 1.231 | 17.67 | 8.134 | 4.54 | 106.4 | -364 | 3 | 0.27 |
| 4/15/2012 | 20:25:33 | 21.32 | 1.231 | 17.67 | 8.133 | 4.54 | 106.4 | -365 | 3 | 0.27 |
| 4/15/2012 | 20:30:33 | 21.32 | 1.231 | 17.67 | 8.133 | 4.54 | 106.4 | -365 | 3 | 0.27 |
| 4/15/2012 | 20:35:33 | 21.32 | 1.231 | 17.67 | 8.131 | 4.54 | 106.4 | -365 | 3 | 0.26 |
| 4/15/2012 | 20:40:33 | 21.32 | 1.232 | 17.67 | 8.13 | 4.54 | 106.4 | -365 | 3 | 0.27 |
| 4/15/2012 | 20:45:33 | 21.32 | 1.232 | 17.67 | 8.128 | 4.54 | 106.4 | -365 | 3 | 0.27 |
| 4/15/2012 | 20:50:33 | 21.32 | 1.231 | 17.67 | 8.127 | 4.54 | 106.4 | -365 | 3 | 0.27 |
| 4/15/2012 | 20:55:33 | 21.32 | 1.232 | 17.67 | 8.128 | 4.54 | 106.4 | -365 | 3 | 0.26 |
| 4/15/2012 | 21:00:33 | 21.32 | 1.232 | 17.67 | 8.126 | 4.54 | 106.4 | -365 | 3 | 0.26 |
| 4/15/2012 | 21:05:33 | 21.32 | 1.232 | 17.66 | 8.119 | 4.54 | 106.4 | -364 | 3 | 0.26 |
| 4/15/2012 | 21:10:33 | 21.32 | 1.232 | 17.66 | 8.119 | 4.54 | 106.5 | -364 | 3 | 0.27 |
| 4/15/2012 | 21:15:33 | 21.32 | 1.232 | 17.66 | 8.115 | 4.54 | 106.5 | -364 | 3 | 0.27 |
| 4/15/2012 | 21:20:33 | 21.32 | 1.232 | 17.66 | 8.113 | 4.54 | 106.4 | -365 | 3 | 0.27 |
| 4/15/2012 | 21:25:33 | 21.32 | 1.232 | 17.66 | 8.109 | 4.54 | 106.4 | -365 | 3 | 0.26 |
| 4/15/2012 | 21:30:33 | 21.32 | 1.232 | 17.66 | 8.108 | 4.54 | 106.4 | -365 | 3 | 0.26 |
| 4/15/2012 | 21:35:33 | 21.32 | 1.232 | 17.66 | 8.106 | 4.54 | 106.3 | -365 | 3 | 0.26 |
| 4/15/2012 | 21:40:33 | 21.32 | 1.232 | 17.66 | 8.101 | 4.54 | 106.3 | -366 | 3 | 0.26 |
| 4/15/2012 | 21:45:33 | 21.32 | 1.232 | 17.65 | 8.098 | 4.54 | 106.3 | -366 | 3 | 0.27 |
| 4/15/2012 | 21:50:33 | 21.32 | 1.233 | 17.65 | 8.096 | 4.54 | 106.3 | -367 | 3 | 0.26 |
| 4/15/2012 | 21:55:33 | 21.32 | 1.233 | 17.65 | 8.093 | 4.54 | 106.3 | -367 | 3 | 0.26 |
| 4/15/2012 | 22:00:33 | 21.32 | 1.233 | 17.65 | 8.09 | 4.54 | 106.3 | -367 | 3 | 0.26 |
| 4/15/2012 | 22:05:33 | 21.32 | 1.233 | 17.65 | 8.086 | 4.54 | 106.4 | -367 | 3 | 0.26 |
| 4/15/2012 | 22:10:33 | 21.32 | 1.233 | 17.65 | 8.081 | 4.54 | 106.4 | -368 | 3 | 0.26 |
| 4/15/2012 | 22:15:33 | 21.32 | 1.233 | 17.65 | 8.08 | 4.54 | 106.4 | -368 | 3 | 0.26 |
| 4/15/2012 | 22:20:33 | 21.32 | 1.233 | 17.64 | 8.075 | 4.54 | 106.4 | -369 | 3 | 0.26 |
| 4/15/2012 | 22:25:33 | 21.32 | 1.233 | 17.64 | 8.073 | 4.54 | 106.3 | -369 | 3 | 0.27 |
| 4/15/2012 | 22:30:33 | 21.32 | 1.233 | 17.64 | 8.069 | 4.54 | 106.3 | -369 | 3 | 0.26 |
| 4/15/2012 | 22:35:33 | 21.32 | 1.233 | 17.64 | 8.068 | 4.54 | 106.3 | -369 | 3 | 0.26 |
| 4/15/2012 | 22:40:33 | 21.32 | 1.234 | 17.64 | 8.063 | 4.54 | 106.3 | -370 | 3 | 0.26 |
| 4/15/2012 | 22:45:33 | 21.32 | 1.233 | 17.64 | 8.06 | 4.54 | 106.3 | -370 | 3 | 0.26 |
| 4/15/2012 | 22:50:33 | 21.32 | 1.234 | 17.64 | 8.057 | 4.54 | 106.3 | -370 | 3 | 0.26 |
| 4/15/2012 | 22:55:33 | 21.32 | 1.233 | 17.63 | 8.052 | 4.54 | 106.3 | -371 | 3 | 0.26 |
| 4/15/2012 | 23:00:33 | 21.32 | 1.234 | 17.63 | 8.05 | 4.54 | 106.3 | -371 | 3 | 0.26 |
| 4/15/2012 | 23:05:33 | 21.32 | 1.234 | 17.63 | 8.048 | 4.54 | 106.3 | -371 | 3 | 0.26 |
| 4/15/2012 | 23:10:33 | 21.32 | 1.234 | 17.63 | 8.043 | 4.54 | 106.4 | -371 | 3 | 0.26 |
| 4/15/2012 | 23:15:33 | 21.32 | 1.233 | 17.63 | 8.039 | 4.54 | 106.4 | -371 | 3 | 0.26 |
| 4/15/2012 | 23:20:33 | 21.32 | 1.233 | 17.63 | 8.035 | 4.54 | 106.4 | -371 | 3 | 0.26 |
| 4/15/2012 | 23:25:33 | 21.32 | 1.234 | 17.63 | 8.032 | 4.54 | 106.4 | -371 | 3 | 0.26 |
| 4/15/2012 | 23:30:33 | 21.32 | 1.234 | 17.62 | 8.028 | 4.54 | 106.4 | -371 | 3 | 0.26 |
| 4/15/2012 | 23:35:33 | 21.32 | 1.234 | 17.62 | 8.025 | 4.54 | 106.4 | -371 | 3 | 0.26 |
| 4/15/2012 | 23:40:33 | 21.32 | 1.234 | 17.62 | 8.022 | 4.54 | 106.4 | -371 | 3 | 0.26 |
| 4/15/2012 | 23:45:33 | 21.32 | 1.234 | 17.62 | 8.019 | 4.54 | 106.4 | -371 | 3 | 0.26 |
| 4/15/2012 | 23:50:33 | 21.33 | 1.234 | 17.62 | 8.018 | 4.54 | 106.4 | -372 | 3 | 0.26 |
| 4/15/2012 | 23:55:33 | 21.33 | 1.235 | 17.62 | 8.014 | 4.54 | 106.3 | -372 | 3 | 0.26 |
| 4/16/2012 | 0:00:33 | 21.33 | 1.235 | 17.62 | 8.014 | 4.54 | 106.3 | -372 | 3 | 0.26 |
| 4/16/2012 | 0:05:33 | 21.33 | 1.235 | 17.62 | 8.012 | 4.54 | 106.2 | -372 | 3 | 0.26 |
| 4/16/2012 | 0:10:33 | 21.33 | 1.235 | 17.62 | 8.009 | 4.55 | 106.1 | -373 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 0:15:33 | 21.33 | 1.235 | 17.62 | 8.007 | 4.55 | 106 | -373 | 3 | 0.26 |
| 4/16/2012 | 0:20:33 | 21.33 | 1.235 | 17.61 | 8.003 | 4.55 | 105.9 | -372 | 3 | 0.26 |
| 4/16/2012 | 0:25:33 | 21.33 | 1.235 | 17.61 | 8.003 | 4.55 | 105.8 | -371 | 3 | 0.26 |
| 4/16/2012 | 0:30:33 | 21.33 | 1.234 | 17.61 | 8.002 | 4.55 | 105.8 | -371 | 3 | 0.26 |
| 4/16/2012 | 0:35:33 | 21.33 | 1.234 | 17.61 | 8 | 4.55 | 105.8 | -371 | 3 | 0.26 |
| 4/16/2012 | 0:40:33 | 21.33 | 1.233 | 17.61 | 7.997 | 4.55 | 105.6 | -370 | 3 | 0.26 |
| 4/16/2012 | 0:45:33 | 21.33 | 1.233 | 17.61 | 7.996 | 4.56 | 105.4 | -370 | 3 | 0.26 |
| 4/16/2012 | 0:50:33 | 21.33 | 1.233 | 17.61 | 7.993 | 4.56 | 105.3 | -370 | 3 | 0.26 |
| 4/16/2012 | 0:55:33 | 21.33 | 1.233 | 17.61 | 7.991 | 4.56 | 105.2 | -369 | 3 | 0.26 |
| 4/16/2012 | 1:00:33 | 21.33 | 1.232 | 17.61 | 7.99 | 4.56 | 105 | -369 | 3 | 0.26 |
| 4/16/2012 | 1:05:33 | 21.33 | 1.231 | 17.61 | 7.989 | 4.57 | 104.9 | -368 | 3 | 0.26 |
| 4/16/2012 | 1:10:33 | 21.33 | 1.231 | 17.61 | 7.989 | 4.56 | 105.1 | -367 | 3 | 0.26 |
| 4/16/2012 | 1:15:33 | 21.33 | 1.23 | 17.61 | 7.985 | 4.56 | 105 | -367 | 3 | 0.26 |
| 4/16/2012 | 1:20:33 | 21.33 | 1.23 | 17.6 | 7.983 | 4.56 | 105.1 | -368 | 3 | 0.26 |
| 4/16/2012 | 1:25:33 | 21.33 | 1.229 | 17.6 | 7.983 | 4.57 | 104.7 | -368 | 3 | 0.26 |
| 4/16/2012 | 1:30:33 | 21.33 | 1.228 | 17.6 | 7.981 | 4.57 | 104.7 | -368 | 3 | 0.26 |
| 4/16/2012 | 1:35:33 | 21.33 | 1.228 | 17.6 | 7.98 | 4.57 | 104.8 | -369 | 3 | 0.26 |
| 4/16/2012 | 1:40:33 | 21.33 | 1.228 | 17.6 | 7.978 | 4.57 | 104.9 | -370 | 3 | 0.26 |
| 4/16/2012 | 1:45:33 | 21.33 | 1.228 | 17.6 | 7.976 | 4.57 | 104.7 | -370 | 3 | 0.26 |
| 4/16/2012 | 1:50:33 | 21.33 | 1.229 | 17.6 | 7.975 | 4.57 | 104.8 | -371 | 3 | 0.26 |
| 4/16/2012 | 1:55:33 | 21.33 | 1.229 | 17.6 | 7.974 | 4.56 | 105 | -372 | 3 | 0.26 |
| 4/16/2012 | 2:00:33 | 21.33 | 1.229 | 17.6 | 7.974 | 4.56 | 105.2 | -372 | 3 | 0.26 |
| 4/16/2012 | 2:05:33 | 21.33 | 1.229 | 17.6 | 7.971 | 4.56 | 105.3 | -373 | 3 | 0.26 |
| 4/16/2012 | 2:10:33 | 21.33 | 1.228 | 17.6 | 7.971 | 4.56 | 105.3 | -374 | 3 | 0.26 |
| 4/16/2012 | 2:15:33 | 21.33 | 1.228 | 17.6 | 7.972 | 4.56 | 105.2 | -375 | 3 | 0.26 |
| 4/16/2012 | 2:20:33 | 21.33 | 1.227 | 17.6 | 7.969 | 4.56 | 105.5 | -375 | 3 | 0.26 |
| 4/16/2012 | 2:25:33 | 21.33 | 1.226 | 17.6 | 7.969 | 4.56 | 105.3 | -375 | 3 | 0.26 |
| 4/16/2012 | 2:30:33 | 21.33 | 1.226 | 17.6 | 7.968 | 4.56 | 105 | -375 | 3 | 0.26 |
| 4/16/2012 | 2:35:33 | 21.33 | 1.226 | 17.6 | 7.966 | 4.57 | 104.6 | -374 | 3 | 0.26 |
| 4/16/2012 | 2:40:33 | 21.33 | 1.226 | 17.6 | 7.967 | 4.57 | 104.6 | -375 | 3 | 0.26 |
| 4/16/2012 | 2:45:33 | 21.33 | 1.226 | 17.6 | 7.963 | 4.57 | 104.5 | -375 | 3 | 0.26 |
| 4/16/2012 | 2:50:33 | 21.33 | 1.226 | 17.6 | 7.964 | 4.57 | 104.4 | -376 | 3 | 0.26 |
| 4/16/2012 | 2:55:33 | 21.33 | 1.226 | 17.6 | 7.963 | 4.57 | 104.8 | -376 | 3 | 0.26 |
| 4/16/2012 | 3:00:33 | 21.33 | 1.226 | 17.6 | 7.962 | 4.57 | 105 | -376 | 3 | 0.26 |
| 4/16/2012 | 3:05:33 | 21.33 | 1.226 | 17.59 | 7.96 | 4.57 | 105 | -377 | 3 | 0.26 |
| 4/16/2012 | 3:10:33 | 21.33 | 1.226 | 17.59 | 7.96 | 4.57 | 104.7 | -377 | 3 | 0.26 |
| 4/16/2012 | 3:15:33 | 21.33 | 1.226 | 17.59 | 7.959 | 4.56 | 105 | -377 | 3 | 0.26 |
| 4/16/2012 | 3:20:33 | 21.33 | 1.226 | 17.59 | 7.959 | 4.56 | 105.5 | -377 | 3 | 0.26 |
| 4/16/2012 | 3:25:33 | 21.33 | 1.226 | 17.59 | 7.96 | 4.55 | 105.8 | -377 | 3 | 0.26 |
| 4/16/2012 | 3:30:33 | 21.33 | 1.226 | 17.59 | 7.958 | 4.57 | 105 | -377 | 3 | 0.26 |
| 4/16/2012 | 3:35:33 | 21.33 | 1.225 | 17.59 | 7.958 | 4.57 | 104.7 | -375 | 3 | 0.26 |
| 4/16/2012 | 3:40:33 | 21.33 | 1.226 | 17.59 | 7.956 | 4.57 | 105 | -375 | 3 | 0.26 |
| 4/16/2012 | 3:45:33 | 21.33 | 1.226 | 17.59 | 7.956 | 4.56 | 105.1 | -376 | 3 | 0.26 |
| 4/16/2012 | 3:50:33 | 21.33 | 1.226 | 17.59 | 7.958 | 4.56 | 105.5 | -378 | 3 | 0.26 |
| 4/16/2012 | 3:55:33 | 21.33 | 1.226 | 17.59 | 7.959 | 4.55 | 105.8 | -379 | 3 | 0.26 |
| 4/16/2012 | 4:00:33 | 21.33 | 1.226 | 17.59 | 7.958 | 4.55 | 105.7 | -379 | 3 | 0.26 |
| 4/16/2012 | 4:05:33 | 21.33 | 1.226 | 17.59 | 7.96 | 4.55 | 105.9 | -380 | 3 | 0.26 |
| 4/16/2012 | 4:10:33 | 21.33 | 1.226 | 17.6 | 7.961 | 4.55 | 105.8 | -381 | 3 | 0.26 |
| 4/16/2012 | 4:15:33 | 21.33 | 1.226 | 17.6 | 7.962 | 4.55 | 106 | -381 | 3 | 0.26 |
| 4/16/2012 | 4:20:33 | 21.33 | 1.226 | 17.6 | 7.962 | 4.54 | 106.3 | -382 | 3 | 0.26 |
| 4/16/2012 | 4:25:33 | 21.33 | 1.226 | 17.6 | 7.965 | 4.54 | 106.1 | -381 | 3 | 0.26 |
| 4/16/2012 | 4:30:33 | 21.33 | 1.226 | 17.6 | 7.965 | 4.54 | 106.3 | -382 | 3 | 0.26 |
| 4/16/2012 | 4:35:33 | 21.33 | 1.226 | 17.6 | 7.967 | 4.54 | 106.3 | -382 | 3 | 0.26 |
| 4/16/2012 | 4:40:33 | 21.33 | 1.226 | 17.6 | 7.967 | 4.54 | 106.3 | -383 | 3 | 0.26 |
| 4/16/2012 | 4:45:33 | 21.33 | 1.226 | 17.6 | 7.969 | 4.54 | 106.2 | -383 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 4:50:33 | 21.33 | 1.226 | 17.6 | 7.975 | 4.54 | 106.3 | -383 | 3 | 0.26 |
| 4/16/2012 | 4:55:33 | 21.33 | 1.226 | 17.6 | 7.975 | 4.54 | 106.3 | -384 | 3 | 0.26 |
| 4/16/2012 | 5:00:33 | 21.33 | 1.226 | 17.6 | 7.977 | 4.54 | 106.4 | -384 | 3 | 0.26 |
| 4/16/2012 | 5:05:33 | 21.33 | 1.226 | 17.6 | 7.976 | 4.54 | 106.6 | -384 | 3 | 0.26 |
| 4/16/2012 | 5:10:33 | 21.33 | 1.226 | 17.6 | 7.979 | 4.53 | 106.9 | -385 | 3 | 0.26 |
| 4/16/2012 | 5:15:33 | 21.33 | 1.226 | 17.6 | 7.983 | 4.53 | 107.1 | -385 | 3 | 0.26 |
| 4/16/2012 | 5:20:33 | 21.33 | 1.226 | 17.6 | 7.983 | 4.53 | 107.2 | -386 | 3 | 0.26 |
| 4/16/2012 | 5:25:33 | 21.33 | 1.226 | 17.61 | 7.985 | 4.52 | 107.4 | -386 | 3 | 0.26 |
| 4/16/2012 | 5:30:33 | 21.33 | 1.226 | 17.61 | 7.988 | 4.52 | 107.4 | -386 | 3 | 0.26 |
| 4/16/2012 | 5:35:33 | 21.33 | 1.226 | 17.61 | 7.992 | 4.52 | 107.4 | -387 | 3 | 0.26 |
| 4/16/2012 | 5:40:33 | 21.33 | 1.226 | 17.61 | 7.993 | 4.52 | 107.5 | -387 | 3 | 0.26 |
| 4/16/2012 | 5:45:33 | 21.33 | 1.226 | 17.61 | 7.996 | 4.52 | 107.5 | -387 | 3 | 0.26 |
| 4/16/2012 | 5:50:33 | 21.33 | 1.226 | 17.61 | 8.001 | 4.52 | 107.6 | -388 | 3 | 0.26 |
| 4/16/2012 | 5:55:33 | 21.33 | 1.226 | 17.61 | 8.003 | 4.52 | 107.8 | -388 | 3 | 0.26 |
| 4/16/2012 | 6:00:33 | 21.33 | 1.226 | 17.62 | 8.007 | 4.51 | 107.8 | -388 | 3 | 0.26 |
| 4/16/2012 | 6:05:33 | 21.33 | 1.226 | 17.62 | 8.011 | 4.51 | 108 | -388 | 3 | 0.26 |
| 4/16/2012 | 6:10:33 | 21.33 | 1.226 | 17.62 | 8.013 | 4.51 | 107.9 | -389 | 3 | 0.26 |
| 4/16/2012 | 6:15:33 | 21.33 | 1.226 | 17.62 | 8.017 | 4.52 | 107.8 | -389 | 3 | 0.26 |
| 4/16/2012 | 6:20:33 | 21.33 | 1.226 | 17.62 | 8.022 | 4.52 | 107.5 | -389 | 3 | 0.26 |
| 4/16/2012 | 6:25:33 | 21.33 | 1.226 | 17.62 | 8.024 | 4.52 | 107.3 | -389 | 3 | 0.26 |
| 4/16/2012 | 6:30:33 | 21.33 | 1.226 | 17.62 | 8.029 | 4.53 | 107.2 | -389 | 3 | 0.26 |
| 4/16/2012 | 6:35:33 | 21.33 | 1.227 | 17.63 | 8.034 | 4.53 | 107 | -389 | 3 | 0.26 |
| 4/16/2012 | 6:40:33 | 21.33 | 1.226 | 17.63 | 8.036 | 4.53 | 106.9 | -390 | 3 | 0.26 |
| 4/16/2012 | 6:45:33 | 21.33 | 1.226 | 17.63 | 8.042 | 4.53 | 106.8 | -390 | 3 | 0.26 |
| 4/16/2012 | 6:50:33 | 21.33 | 1.227 | 17.63 | 8.045 | 4.54 | 106.7 | -390 | 3 | 0.26 |
| 4/16/2012 | 6:55:33 | 21.33 | 1.227 | 17.63 | 8.049 | 4.54 | 106.6 | -391 | 3 | 0.26 |
| 4/16/2012 | 7:00:33 | 21.33 | 1.227 | 17.63 | 8.052 | 4.54 | 106.6 | -391 | 3 | 0.26 |
| 4/16/2012 | 7:05:33 | 21.33 | 1.227 | 17.64 | 8.056 | 4.54 | 106.6 | -391 | 3 | 0.26 |
| 4/16/2012 | 7:10:33 | 21.33 | 1.227 | 17.64 | 8.06 | 4.54 | 106.6 | -391 | 3 | 0.26 |
| 4/16/2012 | 7:15:33 | 21.34 | 1.227 | 17.64 | 8.064 | 4.54 | 106.6 | -391 | 3 | 0.26 |
| 4/16/2012 | 7:20:33 | 21.34 | 1.227 | 17.64 | 8.068 | 4.54 | 106.7 | -391 | 3 | 0.26 |
| 4/16/2012 | 7:25:33 | 21.34 | 1.227 | 17.64 | 8.072 | 4.54 | 106.7 | -391 | 3 | 0.26 |
| 4/16/2012 | 7:30:33 | 21.34 | 1.227 | 17.64 | 8.075 | 4.54 | 106.7 | -391 | 3 | 0.26 |
| 4/16/2012 | 7:35:33 | 21.34 | 1.227 | 17.65 | 8.077 | 4.53 | 106.8 | -391 | 3 | 0.27 |
| 4/16/2012 | 7:40:33 | 21.34 | 1.227 | 17.65 | 8.082 | 4.53 | 106.8 | -391 | 3 | 0.26 |
| 4/16/2012 | 7:45:33 | 21.34 | 1.227 | 17.65 | 8.086 | 4.53 | 106.9 | -391 | 3 | 0.26 |
| 4/16/2012 | 7:50:33 | 21.34 | 1.227 | 17.65 | 8.089 | 4.53 | 106.9 | -391 | 3 | 0.26 |
| 4/16/2012 | 7:55:33 | 21.34 | 1.228 | 17.65 | 8.09 | 4.53 | 106.9 | -392 | 3 | 0.27 |
| 4/16/2012 | 8:00:33 | 21.34 | 1.228 | 17.65 | 8.092 | 4.53 | 107.1 | -392 | 3 | 0.26 |
| 4/16/2012 | 8:05:33 | 21.34 | 1.228 | 17.65 | 8.094 | 4.53 | 107.1 | -392 | 3 | 0.27 |
| 4/16/2012 | 8:10:33 | 21.34 | 1.229 | 17.65 | 8.098 | 4.53 | 107.2 | -393 | 3 | 0.26 |
| 4/16/2012 | 8:15:33 | 21.34 | 1.229 | 17.66 | 8.1 | 4.53 | 107.2 | -393 | 3 | 0.26 |
| 4/16/2012 | 8:20:33 | 21.34 | 1.229 | 17.66 | 8.101 | 4.53 | 107.2 | -393 | 3 | 0.26 |
| 4/16/2012 | 8:25:33 | 21.34 | 1.229 | 17.66 | 8.105 | 4.53 | 107.2 | -393 | 3 | 0.26 |
| 4/16/2012 | 8:30:33 | 21.34 | 1.23 | 17.66 | 8.105 | 4.52 | 107.3 | -393 | 3 | 0.26 |
| 4/16/2012 | 8:35:33 | 21.34 | 1.23 | 17.66 | 8.106 | 4.52 | 107.2 | -393 | 3 | 0.26 |
| 4/16/2012 | 8:40:33 | 21.34 | 1.23 | 17.66 | 8.107 | 4.52 | 107.3 | -393 | 3 | 0.26 |
| 4/16/2012 | 8:45:33 | 21.34 | 1.231 | 17.66 | 8.107 | 4.52 | 107.3 | -393 | 3 | 0.27 |
| 4/16/2012 | 8:50:33 | 21.34 | 1.231 | 17.66 | 8.11 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 8:55:33 | 21.34 | 1.231 | 17.66 | 8.11 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 9:00:33 | 21.34 | 1.231 | 17.66 | 8.11 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 9:05:33 | 21.34 | 1.232 | 17.66 | 8.108 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 9:10:33 | 21.34 | 1.232 | 17.66 | 8.105 | 4.52 | 107.5 | -393 | 3 | 0.26 |
| 4/16/2012 | 9:15:33 | 21.34 | 1.232 | 17.66 | 8.106 | 4.52 | 107.5 | -393 | 3 | 0.27 |
| 4/16/2012 | 9:20:33 | 21.34 | 1.232 | 17.66 | 8.105 | 4.52 | 107.5 | -394 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 9:25:33 | 21.34 | 1.232 | 17.66 | 8.104 | 4.52 | 107.5 | -394 | 3 | 0.26 |
| 4/16/2012 | 9:30:33 | 21.34 | 1.232 | 17.66 | 8.102 | 4.52 | 107.5 | -393 | 3 | 0.27 |
| 4/16/2012 | 9:35:33 | 21.34 | 1.232 | 17.66 | 8.1 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 9:40:33 | 21.34 | 1.233 | 17.65 | 8.099 | 4.52 | 107.4 | -393 | 3 | 0.27 |
| 4/16/2012 | 9:45:33 | 21.34 | 1.233 | 17.65 | 8.096 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 9:50:33 | 21.34 | 1.233 | 17.65 | 8.094 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 9:55:33 | 21.34 | 1.233 | 17.65 | 8.091 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 10:00:33 | 21.34 | 1.233 | 17.65 | 8.09 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 10:05:33 | 21.34 | 1.233 | 17.65 | 8.089 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 10:10:33 | 21.34 | 1.233 | 17.65 | 8.084 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 10:15:33 | 21.34 | 1.233 | 17.65 | 8.082 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 10:20:33 | 21.34 | 1.233 | 17.65 | 8.08 | 4.52 | 107.4 | -393 | 3 | 0.26 |
| 4/16/2012 | 10:25:33 | 21.34 | 1.233 | 17.65 | 8.078 | 4.52 | 107.5 | -393 | 3 | 0.26 |
| 4/16/2012 | 10:30:33 | 21.34 | 1.233 | 17.64 | 8.074 | 4.52 | 107.5 | -392 | 3 | 0.26 |
| 4/16/2012 | 10:35:33 | 21.34 | 1.233 | 17.64 | 8.071 | 4.52 | 107.5 | -393 | 3 | 0.26 |
| 4/16/2012 | 10:40:33 | 21.34 | 1.233 | 17.64 | 8.069 | 4.52 | 107.5 | -393 | 3 | 0.26 |
| 4/16/2012 | 10:45:33 | 21.34 | 1.234 | 17.64 | 8.066 | 4.52 | 107.6 | -393 | 3 | 0.26 |
| 4/16/2012 | 10:50:33 | 21.34 | 1.234 | 17.64 | 8.062 | 4.52 | 107.7 | -393 | 3 | 0.26 |
| 4/16/2012 | 10:55:33 | 21.34 | 1.234 | 17.64 | 8.058 | 4.52 | 107.7 | -394 | 3 | 0.26 |
| 4/16/2012 | 11:00:33 | 21.34 | 1.234 | 17.64 | 8.054 | 4.52 | 107.6 | -394 | 3 | 0.26 |
| 4/16/2012 | 11:05:33 | 21.34 | 1.234 | 17.63 | 8.051 | 4.52 | 107.6 | -394 | 3 | 0.26 |
| 4/16/2012 | 11:10:33 | 21.34 | 1.234 | 17.63 | 8.049 | 4.52 | 107.5 | -394 | 3 | 0.26 |
| 4/16/2012 | 11:15:33 | 21.34 | 1.234 | 17.63 | 8.044 | 4.52 | 107.6 | -394 | 3 | 0.26 |
| 4/16/2012 | 11:20:33 | 21.34 | 1.234 | 17.63 | 8.044 | 4.52 | 107.7 | -395 | 3 | 0.26 |
| 4/16/2012 | 11:25:33 | 21.34 | 1.234 | 17.63 | 8.039 | 4.52 | 107.7 | -395 | 3 | 0.26 |
| 4/16/2012 | 11:30:33 | 21.34 | 1.234 | 17.63 | 8.036 | 4.52 | 107.6 | -395 | 3 | 0.26 |
| 4/16/2012 | 11:35:33 | 21.34 | 1.234 | 17.63 | 8.033 | 4.52 | 107.5 | -395 | 3 | 0.26 |
| 4/16/2012 | 11:40:33 | 21.34 | 1.235 | 17.63 | 8.031 | 4.52 | 107.5 | -396 | 3 | 0.26 |
| 4/16/2012 | 11:45:33 | 21.34 | 1.234 | 17.62 | 8.026 | 4.52 | 107.5 | -396 | 3 | 0.26 |
| 4/16/2012 | 11:50:33 | 21.34 | 1.234 | 17.62 | 8.024 | 4.52 | 107.4 | -397 | 3 | 0.26 |
| 4/16/2012 | 11:55:33 | 21.34 | 1.234 | 17.62 | 8.021 | 4.52 | 107.4 | -397 | 3 | 0.26 |
| 4/16/2012 | 12:00:33 | 21.34 | 1.234 | 17.62 | 8.017 | 4.52 | 107.4 | -397 | 3 | 0.26 |
| 4/16/2012 | 12:05:33 | 21.34 | 1.235 | 17.62 | 8.016 | 4.52 | 107.3 | -397 | 3 | 0.26 |
| 4/16/2012 | 12:10:33 | 21.34 | 1.234 | 17.62 | 8.011 | 4.53 | 107.2 | -397 | 3 | 0.26 |
| 4/16/2012 | 12:15:33 | 21.34 | 1.235 | 17.62 | 8.009 | 4.53 | 107.2 | -398 | 3 | 0.26 |
| 4/16/2012 | 12:20:33 | 21.34 | 1.235 | 17.62 | 8.009 | 4.53 | 107.1 | -398 | 3 | 0.26 |
| 4/16/2012 | 12:25:33 | 21.34 | 1.235 | 17.61 | 8.004 | 4.53 | 107.2 | -398 | 3 | 0.26 |
| 4/16/2012 | 12:30:33 | 21.34 | 1.235 | 17.61 | 8.004 | 4.53 | 107.1 | -399 | 3 | 0.26 |
| 4/16/2012 | 12:35:33 | 21.34 | 1.235 | 17.61 | 8.001 | 4.53 | 107.1 | -399 | 3 | 0.26 |
| 4/16/2012 | 12:40:33 | 21.34 | 1.235 | 17.61 | 7.998 | 4.53 | 107.1 | -399 | 3 | 0.26 |
| 4/16/2012 | 12:45:33 | 21.35 | 1.235 | 17.61 | 7.994 | 4.53 | 107 | -399 | 3 | 0.26 |
| 4/16/2012 | 12:50:33 | 21.35 | 1.235 | 17.61 | 7.992 | 4.53 | 106.9 | -398 | 3 | 0.26 |
| 4/16/2012 | 12:55:33 | 21.35 | 1.236 | 17.61 | 7.992 | 4.53 | 106.8 | -398 | 3 | 0.26 |
| 4/16/2012 | 13:00:33 | 21.35 | 1.236 | 17.61 | 7.987 | 4.54 | 106.5 | -398 | 3 | 0.26 |
| 4/16/2012 | 13:05:33 | 21.35 | 1.236 | 17.61 | 7.985 | 4.54 | 106.3 | -398 | 3 | 0.26 |
| 4/16/2012 | 13:10:33 | 21.35 | 1.236 | 17.61 | 7.986 | 4.54 | 106.2 | -398 | 3 | 0.26 |
| 4/16/2012 | 13:15:33 | 21.35 | 1.236 | 17.6 | 7.981 | 4.55 | 106.1 | -398 | 3 | 0.26 |
| 4/16/2012 | 13:20:33 | 21.35 | 1.236 | 17.6 | 7.98 | 4.55 | 106 | -398 | 3 | 0.26 |
| 4/16/2012 | 13:25:33 | 21.35 | 1.236 | 17.6 | 7.976 | 4.55 | 105.9 | -397 | 3 | 0.26 |
| 4/16/2012 | 13:30:33 | 21.35 | 1.236 | 17.6 | 7.973 | 4.55 | 105.9 | -396 | 3 | 0.26 |
| 4/16/2012 | 13:35:33 | 21.35 | 1.236 | 17.6 | 7.973 | 4.55 | 105.8 | -396 | 3 | 0.26 |
| 4/16/2012 | 13:40:33 | 21.35 | 1.236 | 17.6 | 7.969 | 4.55 | 105.7 | -396 | 3 | 0.26 |
| 4/16/2012 | 13:45:33 | 21.35 | 1.237 | 17.6 | 7.969 | 4.56 | 105.5 | -396 | 3 | 0.26 |
| 4/16/2012 | 13:50:33 | 21.35 | 1.236 | 17.6 | 7.968 | 4.56 | 105.4 | -396 | 3 | 0.26 |
| 4/16/2012 | 13:55:33 | 21.35 | 1.236 | 17.6 | 7.965 | 4.56 | 105.3 | -396 | 3 | 0.26 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 14:00:33 | 21.35 | 1.237 | 17.6 | 7.964 | 4.56 | 105.3 | -396 | 3 | 0.26 |
| 4/16/2012 | 14:05:33 | 21.35 | 1.236 | 17.6 | 7.963 | 4.56 | 105.3 | -396 | 3 | 0.26 |
| 4/16/2012 | 14:10:33 | 21.35 | 1.236 | 17.6 | 7.962 | 4.56 | 105.2 | -396 | 3 | 0.26 |
| 4/16/2012 | 14:15:33 | 21.35 | 1.236 | 17.6 | 7.962 | 4.56 | 105.3 | -395 | 3 | 0.26 |
| 4/16/2012 | 14:20:33 | 21.35 | 1.236 | 17.59 | 7.959 | 4.56 | 105.3 | -395 | 3 | 0.26 |
| 4/16/2012 | 14:25:33 | 21.35 | 1.236 | 17.59 | 7.959 | 4.56 | 105.3 | -395 | 3 | 0.26 |
| 4/16/2012 | 14:30:33 | 21.35 | 1.236 | 17.59 | 7.957 | 4.56 | 105.5 | -395 | 3 | 0.26 |
| 4/16/2012 | 14:35:33 | 21.35 | 1.236 | 17.59 | 7.954 | 4.56 | 105.4 | -395 | 3 | 0.26 |
| 4/16/2012 | 14:40:33 | 21.35 | 1.236 | 17.59 | 7.951 | 4.56 | 105.5 | -395 | 3 | 0.26 |
| 4/16/2012 | 14:45:33 | 21.35 | 1.236 | 17.59 | 7.953 | 4.55 | 105.7 | -395 | 3 | 0.26 |
| 4/16/2012 | 14:50:33 | 21.35 | 1.236 | 17.59 | 7.95 | 4.55 | 105.7 | -396 | 3 | 0.26 |
| 4/16/2012 | 14:55:33 | 21.35 | 1.236 | 17.59 | 7.95 | 4.55 | 106 | -397 | 3 | 0.26 |
| 4/16/2012 | 15:00:33 | 21.35 | 1.236 | 17.59 | 7.948 | 4.55 | 106.1 | -397 | 3 | 0.26 |
| 4/16/2012 | 15:05:33 | 21.35 | 1.236 | 17.59 | 7.947 | 4.55 | 106.1 | -398 | 3 | 0.26 |
| 4/16/2012 | 15:10:33 | 21.35 | 1.236 | 17.59 | 7.948 | 4.55 | 106 | -398 | 3 | 0.26 |
| 4/16/2012 | 15:15:33 | 21.35 | 1.235 | 17.59 | 7.942 | 4.55 | 106 | -398 | 3 | 0.26 |
| 4/16/2012 | 15:20:33 | 21.35 | 1.236 | 17.59 | 7.945 | 4.55 | 106.1 | -398 | 3 | 0.26 |
| 4/16/2012 | 15:25:33 | 21.35 | 1.236 | 17.59 | 7.943 | 4.54 | 106.1 | -398 | 3 | 0.26 |
| 4/16/2012 | 15:30:33 | 21.35 | 1.236 | 17.59 | 7.942 | 4.54 | 106.3 | -398 | 3 | 0.26 |
| 4/16/2012 | 15:35:33 | 21.35 | 1.236 | 17.59 | 7.942 | 4.54 | 106.3 | -398 | 3 | 0.26 |
| 4/16/2012 | 15:40:33 | 21.35 | 1.236 | 17.59 | 7.941 | 4.54 | 106.2 | -399 | 3 | 0.26 |
| 4/16/2012 | 15:45:33 | 21.35 | 1.235 | 17.58 | 7.938 | 4.54 | 106.3 | -399 | 3 | 0.26 |
| 4/16/2012 | 15:50:33 | 21.35 | 1.235 | 17.59 | 7.94 | 4.54 | 106.6 | -399 | 3 | 0.26 |
| 4/16/2012 | 15:55:33 | 21.35 | 1.235 | 17.59 | 7.939 | 4.53 | 106.7 | -400 | 3 | 0.26 |
| 4/16/2012 | 16:00:33 | 21.35 | 1.235 | 17.58 | 7.937 | 4.53 | 106.8 | -400 | 3 | 0.26 |
| 4/16/2012 | 16:05:33 | 21.35 | 1.236 | 17.58 | 7.936 | 4.53 | 106.9 | -400 | 3 | 0.26 |
| 4/16/2012 | 16:10:33 | 21.35 | 1.236 | 17.58 | 7.937 | 4.53 | 107.1 | -400 | 3 | 0.26 |
| 4/16/2012 | 16:15:33 | 21.35 | 1.235 | 17.58 | 7.935 | 4.53 | 107.1 | -401 | 3 | 0.26 |
| 4/16/2012 | 16:20:33 | 21.35 | 1.236 | 17.58 | 7.935 | 4.52 | 107.3 | -401 | 3 | 0.26 |
| 4/16/2012 | 16:25:33 | 21.35 | 1.235 | 17.58 | 7.935 | 4.53 | 107.2 | -402 | 3 | 0.26 |
| 4/16/2012 | 16:30:33 | 21.35 | 1.235 | 17.58 | 7.936 | 4.53 | 107.1 | -402 | 3 | 0.26 |
| 4/16/2012 | 16:35:33 | 21.35 | 1.235 | 17.58 | 7.936 | 4.53 | 106.8 | -402 | 3 | 0.26 |
| 4/16/2012 | 16:40:33 | 21.35 | 1.235 | 17.59 | 7.939 | 4.53 | 106.8 | -402 | 3 | 0.26 |
| 4/16/2012 | 16:45:33 | 21.35 | 1.235 | 17.58 | 7.936 | 4.53 | 107.1 | -402 | 3 | 0.26 |
| 4/16/2012 | 16:50:33 | 21.35 | 1.235 | 17.59 | 7.94 | 4.53 | 107.2 | -403 | 3 | 0.26 |
| 4/16/2012 | 16:55:33 | 21.35 | 1.236 | 17.58 | 7.937 | 4.53 | 107.2 | -403 | 3 | 0.26 |
| 4/16/2012 | 17:00:33 | 21.35 | 1.236 | 17.59 | 7.942 | 4.53 | 107.2 | -403 | 3 | 0.26 |
| 4/16/2012 | 17:05:33 | 21.35 | 1.235 | 17.59 | 7.939 | 4.52 | 107.3 | -403 | 3 | 0.26 |
| 4/16/2012 | 17:10:33 | 21.35 | 1.236 | 17.59 | 7.942 | 4.53 | 107.2 | -404 | 3 | 0.26 |
| 4/16/2012 | 17:15:33 | 21.35 | 1.236 | 17.59 | 7.944 | 4.53 | 107.1 | -404 | 3 | 0.26 |
| 4/16/2012 | 17:20:33 | 21.35 | 1.236 | 17.59 | 7.945 | 4.53 | 107.2 | -404 | 3 | 0.26 |
| 4/16/2012 | 17:25:33 | 21.35 | 1.235 | 17.59 | 7.948 | 4.53 | 107.1 | -404 | 3 | 0.26 |
| 4/16/2012 | 17:30:33 | 21.35 | 1.236 | 17.59 | 7.952 | 4.53 | 107.1 | -404 | 3 | 0.26 |
| 4/16/2012 | 17:35:33 | 21.35 | 1.236 | 17.59 | 7.952 | 4.53 | 107 | -405 | 3 | 0.26 |
| 4/16/2012 | 17:40:33 | 21.35 | 1.236 | 17.59 | 7.956 | 4.53 | 106.9 | -405 | 3 | 0.26 |
| 4/16/2012 | 17:45:33 | 21.35 | 1.236 | 17.59 | 7.957 | 4.53 | 106.9 | -405 | 3 | 0.26 |
| 4/16/2012 | 17:50:33 | 21.35 | 1.236 | 17.59 | 7.959 | 4.53 | 106.8 | -404 | 3 | 0.26 |
| 4/16/2012 | 17:55:33 | 21.35 | 1.236 | 17.59 | 7.96 | 4.53 | 106.8 | -405 | 3 | 0.26 |
| 4/16/2012 | 18:00:33 | 21.35 | 1.236 | 17.6 | 7.963 | 4.54 | 106.7 | -405 | 3 | 0.26 |
| 4/16/2012 | 18:05:33 | 21.35 | 1.236 | 17.6 | 7.965 | 4.54 | 106.6 | -405 | 3 | 0.26 |
| 4/16/2012 | 18:10:33 | 21.35 | 1.236 | 17.6 | 7.968 | 4.54 | 106.4 | -406 | 3 | 0.26 |
| 4/16/2012 | 18:15:33 | 21.35 | 1.236 | 17.6 | 7.97 | 4.54 | 106.4 | -406 | 3 | 0.26 |
| 4/16/2012 | 18:20:33 | 21.35 | 1.236 | 17.6 | 7.974 | 4.54 | 106.3 | -405 | 3 | 0.26 |
| 4/16/2012 | 18:25:33 | 21.35 | 1.236 | 17.6 | 7.976 | 4.54 | 106.3 | -405 | 3 | 0.26 |
| 4/16/2012 | 18:30:33 | 21.35 | 1.235 | 17.6 | 7.979 | 4.54 | 106.3 | -405 | 3 | 0.26 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 18:35:33 | 21.35 | 1.236 | 17.6 | 7.982 | 4.54 | 106.2 | -405 | 3 | 0.26 |
| 4/16/2012 | 18:40:33 | 21.35 | 1.236 | 17.6 | 7.981 | 4.55 | 106.1 | -405 | 3 | 0.26 |
| 4/16/2012 | 18:45:33 | 21.35 | 1.236 | 17.61 | 7.986 | 4.54 | 106.1 | -405 | 3 | 0.26 |
| 4/16/2012 | 18:50:33 | 21.35 | 1.236 | 17.61 | 7.988 | 4.54 | 106.2 | -405 | 3 | 0.26 |
| 4/16/2012 | 18:55:33 | 21.35 | 1.236 | 17.61 | 7.993 | 4.55 | 106.1 | -405 | 3 | 0.26 |
| 4/16/2012 | 19:00:33 | 21.35 | 1.236 | 17.61 | 7.995 | 4.55 | 106.1 | -405 | 3 | 0.26 |
| 4/16/2012 | 19:05:33 | 21.35 | 1.236 | 17.61 | 8 | 4.54 | 106.2 | -405 | 3 | 0.26 |
| 4/16/2012 | 19:10:33 | 21.35 | 1.236 | 17.61 | 8.004 | 4.54 | 106.4 | -406 | 3 | 0.26 |
| 4/16/2012 | 19:15:33 | 21.35 | 1.236 | 17.61 | 8.005 | 4.54 | 106.3 | -406 | 3 | 0.26 |
| 4/16/2012 | 19:20:33 | 21.35 | 1.236 | 17.62 | 8.009 | 4.54 | 106.2 | -407 | 3 | 0.26 |
| 4/16/2012 | 19:25:33 | 21.35 | 1.236 | 17.62 | 8.011 | 4.54 | 106.3 | -408 | 3 | 0.26 |
| 4/16/2012 | 19:30:33 | 21.35 | 1.236 | 17.62 | 8.017 | 4.54 | 106.4 | -408 | 3 | 0.26 |
| 4/16/2012 | 19:35:33 | 21.35 | 1.237 | 17.62 | 8.018 | 4.54 | 106.6 | -408 | 3 | 0.26 |
| 4/16/2012 | 19:40:33 | 21.35 | 1.237 | 17.62 | 8.022 | 4.53 | 106.8 | -408 | 3 | 0.26 |
| 4/16/2012 | 19:45:33 | 21.35 | 1.237 | 17.62 | 8.025 | 4.53 | 106.8 | -408 | 3 | 0.26 |
| 4/16/2012 | 19:50:33 | 21.36 | 1.237 | 17.62 | 8.027 | 4.53 | 106.9 | -408 | 3 | 0.26 |
| 4/16/2012 | 19:55:33 | 21.36 | 1.237 | 17.63 | 8.03 | 4.53 | 106.9 | -408 | 3 | 0.26 |
| 4/16/2012 | 20:00:33 | 21.36 | 1.237 | 17.63 | 8.036 | 4.53 | 106.9 | -408 | 3 | 0.26 |
| 4/16/2012 | 20:05:33 | 21.36 | 1.237 | 17.63 | 8.038 | 4.53 | 107.1 | -408 | 3 | 0.26 |
| 4/16/2012 | 20:10:33 | 21.36 | 1.237 | 17.63 | 8.039 | 4.53 | 107.1 | -408 | 3 | 0.26 |
| 4/16/2012 | 20:15:33 | 21.36 | 1.237 | 17.63 | 8.044 | 4.53 | 107.2 | -409 | 3 | 0.26 |
| 4/16/2012 | 20:20:33 | 21.36 | 1.237 | 17.63 | 8.046 | 4.53 | 107.2 | -409 | 3 | 0.26 |
| 4/16/2012 | 20:25:33 | 21.36 | 1.237 | 17.63 | 8.049 | 4.53 | 107.2 | -409 | 3 | 0.26 |
| 4/16/2012 | 20:30:33 | 21.36 | 1.237 | 17.63 | 8.049 | 4.53 | 107.2 | -409 | 3 | 0.26 |
| 4/16/2012 | 20:35:33 | 21.36 | 1.238 | 17.63 | 8.053 | 4.53 | 107.2 | -409 | 3 | 0.26 |
| 4/16/2012 | 20:40:33 | 21.36 | 1.238 | 17.64 | 8.055 | 4.53 | 107.2 | -409 | 3 | 0.26 |
| 4/16/2012 | 20:45:33 | 21.36 | 1.238 | 17.64 | 8.056 | 4.52 | 107.3 | -409 | 3 | 0.26 |
| 4/16/2012 | 20:50:33 | 21.35 | 1.239 | 17.64 | 8.061 | 4.52 | 107.4 | -409 | 3 | 0.26 |
| 4/16/2012 | 20:55:33 | 21.36 | 1.239 | 17.64 | 8.061 | 4.52 | 107.4 | -408 | 3 | 0.26 |
| 4/16/2012 | 21:00:33 | 21.36 | 1.239 | 17.64 | 8.063 | 4.52 | 107.5 | -409 | 3 | 0.26 |
| 4/16/2012 | 21:05:33 | 21.36 | 1.24 | 17.64 | 8.064 | 4.52 | 107.6 | -409 | 3 | 0.26 |
| 4/16/2012 | 21:10:33 | 21.36 | 1.24 | 17.64 | 8.064 | 4.52 | 107.7 | -409 | 3 | 0.26 |
| 4/16/2012 | 21:15:33 | 21.36 | 1.24 | 17.64 | 8.065 | 4.52 | 107.7 | -409 | 3 | 0.26 |
| 4/16/2012 | 21:20:33 | 21.36 | 1.24 | 17.64 | 8.064 | 4.52 | 107.7 | -409 | 3 | 0.27 |
| 4/16/2012 | 21:25:33 | 21.36 | 1.241 | 17.64 | 8.064 | 4.52 | 107.8 | -409 | 3 | 0.26 |
| 4/16/2012 | 21:30:33 | 21.36 | 1.241 | 17.64 | 8.062 | 4.52 | 107.8 | -409 | 3 | 0.26 |
| 4/16/2012 | 21:35:33 | 21.36 | 1.241 | 17.64 | 8.062 | 4.51 | 107.8 | -410 | 3 | 0.26 |
| 4/16/2012 | 21:40:33 | 21.36 | 1.241 | 17.64 | 8.058 | 4.51 | 107.8 | -410 | 3 | 0.26 |
| 4/16/2012 | 21:45:33 | 21.36 | 1.242 | 17.64 | 8.059 | 4.51 | 107.8 | -410 | 3 | 0.26 |
| 4/16/2012 | 21:50:33 | 21.36 | 1.242 | 17.64 | 8.058 | 4.51 | 107.8 | -410 | 3 | 0.26 |
| 4/16/2012 | 21:55:33 | 21.36 | 1.242 | 17.64 | 8.055 | 4.51 | 107.8 | -410 | 3 | 0.26 |
| 4/16/2012 | 22:00:33 | 21.36 | 1.242 | 17.63 | 8.053 | 4.51 | 107.9 | -410 | 3 | 0.26 |
| 4/16/2012 | 22:05:33 | 21.36 | 1.243 | 17.63 | 8.051 | 4.51 | 108 | -410 | 3 | 0.26 |
| 4/16/2012 | 22:10:33 | 21.36 | 1.243 | 17.63 | 8.049 | 4.51 | 108.1 | -410 | 3 | 0.26 |
| 4/16/2012 | 22:15:33 | 21.36 | 1.242 | 17.63 | 8.046 | 4.51 | 108.2 | -410 | 3 | 0.26 |
| 4/16/2012 | 22:20:33 | 21.36 | 1.243 | 17.63 | 8.043 | 4.51 | 108.3 | -410 | 3 | 0.26 |
| 4/16/2012 | 22:25:33 | 21.36 | 1.243 | 17.63 | 8.043 | 4.5 | 108.4 | -410 | 3 | 0.26 |
| 4/16/2012 | 22:30:33 | 21.36 | 1.243 | 17.63 | 8.038 | 4.5 | 108.6 | -410 | 3 | 0.26 |
| 4/16/2012 | 22:35:33 | 21.36 | 1.243 | 17.63 | 8.035 | 4.5 | 108.7 | -410 | 3 | 0.26 |
| 4/16/2012 | 22:40:33 | 21.36 | 1.243 | 17.63 | 8.032 | 4.5 | 108.9 | -410 | 3 | 0.26 |
| 4/16/2012 | 22:45:33 | 21.36 | 1.243 | 17.62 | 8.026 | 4.49 | 109.1 | -410 | 3 | 0.26 |
| 4/16/2012 | 22:50:33 | 21.36 | 1.243 | 17.62 | 8.024 | 4.49 | 109.2 | -408 | 3 | 0.26 |
| 4/16/2012 | 22:55:33 | 21.36 | 1.243 | 17.62 | 8.021 | 4.49 | 109.2 | -407 | 3 | 0.26 |
| 4/16/2012 | 23:00:33 | 21.36 | 1.243 | 17.62 | 8.019 | 4.49 | 109.2 | -407 | 3 | 0.26 |
| 4/16/2012 | 23:05:33 | 21.36 | 1.243 | 17.62 | 8.016 | 4.49 | 109.1 | -407 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/16/2012 | 23:10:33 | 21.36 | 1.243 | 17.62 | 8.012 | 4.49 | 109.1 | -407 | 3 | 0.26 |
| 4/16/2012 | 23:15:33 | 21.36 | 1.243 | 17.62 | 8.007 | 4.49 | 109 | -407 | 3 | 0.26 |
| 4/16/2012 | 23:20:33 | 21.36 | 1.243 | 17.61 | 8.004 | 4.49 | 109 | -408 | 3 | 0.26 |
| 4/16/2012 | 23:25:33 | 21.36 | 1.243 | 17.61 | 8 | 4.49 | 109.1 | -408 | 3 | 0.26 |
| 4/16/2012 | 23:30:33 | 21.36 | 1.243 | 17.61 | 7.995 | 4.49 | 109 | -408 | 3 | 0.26 |
| 4/16/2012 | 23:35:33 | 21.36 | 1.243 | 17.61 | 7.992 | 4.49 | 109.1 | -407 | 3 | 0.26 |
| 4/16/2012 | 23:40:33 | 21.36 | 1.243 | 17.61 | 7.987 | 4.49 | 109 | -407 | 3 | 0.26 |
| 4/16/2012 | 23:45:33 | 21.36 | 1.243 | 17.61 | 7.984 | 4.49 | 108.9 | -407 | 3 | 0.26 |
| 4/16/2012 | 23:50:33 | 21.36 | 1.243 | 17.6 | 7.98 | 4.5 | 108.9 | -407 | 3 | 0.26 |
| 4/16/2012 | 23:55:33 | 21.36 | 1.243 | 17.6 | 7.977 | 4.5 | 108.9 | -406 | 3 | 0.26 |
| 4/17/2012 | 0:00:33 | 21.36 | 1.243 | 17.6 | 7.973 | 4.5 | 108.9 | -406 | 3 | 0.26 |
| 4/17/2012 | 0:05:33 | 21.36 | 1.243 | 17.6 | 7.97 | 4.49 | 109 | -406 | 3 | 0.26 |
| 4/17/2012 | 0:10:33 | 21.36 | 1.244 | 17.6 | 7.968 | 4.5 | 108.9 | -403 | 3 | 0.26 |
| 4/17/2012 | 0:15:33 | 21.36 | 1.243 | 17.6 | 7.964 | 4.5 | 108.9 | -403 | 3 | 0.26 |
| 4/17/2012 | 0:20:33 | 21.36 | 1.243 | 17.6 | 7.962 | 4.5 | 108.8 | -403 | 3 | 0.26 |
| 4/17/2012 | 0:25:33 | 21.36 | 1.243 | 17.59 | 7.957 | 4.5 | 108.8 | -403 | 3 | 0.26 |
| 4/17/2012 | 0:30:33 | 21.36 | 1.244 | 17.59 | 7.955 | 4.5 | 108.6 | -404 | 3 | 0.26 |
| 4/17/2012 | 0:35:33 | 21.36 | 1.244 | 17.59 | 7.95 | 4.5 | 108.5 | -405 | 3 | 0.26 |
| 4/17/2012 | 0:40:33 | 21.37 | 1.244 | 17.59 | 7.949 | 4.51 | 108.4 | -406 | 3 | 0.26 |
| 4/17/2012 | 0:45:33 | 21.37 | 1.244 | 17.59 | 7.946 | 4.51 | 108.3 | -407 | 3 | 0.26 |
| 4/17/2012 | 0:50:33 | 21.37 | 1.244 | 17.59 | 7.945 | 4.51 | 108.2 | -406 | 3 | 0.26 |
| 4/17/2012 | 0:55:33 | 21.37 | 1.244 | 17.59 | 7.94 | 4.51 | 108.2 | -406 | 3 | 0.26 |
| 4/17/2012 | 1:00:33 | 21.37 | 1.244 | 17.58 | 7.937 | 4.51 | 108.1 | -406 | 3 | 0.26 |
| 4/17/2012 | 1:05:33 | 21.37 | 1.244 | 17.58 | 7.936 | 4.51 | 108 | -406 | 3 | 0.26 |
| 4/17/2012 | 1:10:33 | 21.37 | 1.244 | 17.58 | 7.933 | 4.51 | 108 | -409 | 3 | 0.26 |
| 4/17/2012 | 1:15:33 | 21.37 | 1.244 | 17.58 | 7.929 | 4.51 | 108 | -409 | 3 | 0.26 |
| 4/17/2012 | 1:20:33 | 21.37 | 1.244 | 17.58 | 7.928 | 4.51 | 108 | -408 | 3 | 0.26 |
| 4/17/2012 | 1:25:33 | 21.37 | 1.243 | 17.58 | 7.926 | 4.51 | 108 | -410 | 3 | 0.26 |
| 4/17/2012 | 1:30:33 | 21.37 | 1.243 | 17.58 | 7.921 | 4.51 | 107.9 | -410 | 3 | 0.26 |
| 4/17/2012 | 1:35:33 | 21.37 | 1.243 | 17.58 | 7.92 | 4.51 | 107.8 | -408 | 3 | 0.26 |
| 4/17/2012 | 1:40:33 | 21.37 | 1.242 | 17.58 | 7.919 | 4.52 | 107.8 | -406 | 3 | 0.26 |
| 4/17/2012 | 1:45:33 | 21.37 | 1.242 | 17.58 | 7.916 | 4.52 | 107.8 | -405 | 3 | 0.26 |
| 4/17/2012 | 1:50:33 | 21.37 | 1.242 | 17.58 | 7.915 | 4.52 | 107.7 | -403 | 3 | 0.26 |
| 4/17/2012 | 1:55:33 | 21.37 | 1.241 | 17.57 | 7.913 | 4.52 | 107.8 | -403 | 3 | 0.26 |
| 4/17/2012 | 2:00:33 | 21.37 | 1.241 | 17.57 | 7.912 | 4.52 | 107.7 | -402 | 3 | 0.26 |
| 4/17/2012 | 2:05:33 | 21.37 | 1.241 | 17.57 | 7.91 | 4.52 | 107.7 | -400 | 3 | 0.26 |
| 4/17/2012 | 2:10:33 | 21.37 | 1.24 | 17.57 | 7.907 | 4.52 | 107.7 | -399 | 3 | 0.26 |
| 4/17/2012 | 2:15:33 | 21.37 | 1.24 | 17.57 | 7.904 | 4.52 | 107.7 | -398 | 3 | 0.26 |
| 4/17/2012 | 2:20:33 | 21.37 | 1.24 | 17.57 | 7.905 | 4.52 | 107.7 | -397 | 3 | 0.26 |
| 4/17/2012 | 2:25:33 | 21.37 | 1.24 | 17.57 | 7.904 | 4.52 | 107.8 | -396 | 3 | 0.26 |
| 4/17/2012 | 2:30:33 | 21.37 | 1.24 | 17.57 | 7.902 | 4.52 | 107.8 | -396 | 3 | 0.26 |
| 4/17/2012 | 2:35:33 | 21.37 | 1.24 | 17.57 | 7.9 | 4.51 | 107.8 | -398 | 3 | 0.26 |
| 4/17/2012 | 2:40:33 | 21.37 | 1.239 | 17.57 | 7.9 | 4.51 | 107.9 | -398 | 3 | 0.26 |
| 4/17/2012 | 2:45:33 | 21.37 | 1.239 | 17.57 | 7.898 | 4.51 | 107.9 | -399 | 3 | 0.26 |
| 4/17/2012 | 2:50:33 | 21.37 | 1.239 | 17.57 | 7.896 | 4.51 | 107.8 | -398 | 3 | 0.26 |
| 4/17/2012 | 2:55:33 | 21.37 | 1.239 | 17.57 | 7.893 | 4.52 | 107.8 | -397 | 3 | 0.26 |
| 4/17/2012 | 3:00:33 | 21.37 | 1.239 | 17.57 | 7.894 | 4.52 | 107.8 | -396 | 3 | 0.26 |
| 4/17/2012 | 3:05:33 | 21.37 | 1.239 | 17.57 | 7.894 | 4.52 | 107.7 | -395 | 3 | 0.26 |
| 4/17/2012 | 3:10:33 | 21.37 | 1.239 | 17.56 | 7.891 | 4.52 | 107.8 | -395 | 3 | 0.26 |
| 4/17/2012 | 3:15:33 | 21.37 | 1.239 | 17.56 | 7.891 | 4.51 | 107.9 | -395 | 3 | 0.26 |
| 4/17/2012 | 3:20:33 | 21.37 | 1.238 | 17.56 | 7.889 | 4.51 | 108 | -396 | 3 | 0.26 |
| 4/17/2012 | 3:25:33 | 21.37 | 1.238 | 17.56 | 7.889 | 4.51 | 108 | -397 | 3 | 0.26 |
| 4/17/2012 | 3:30:33 | 21.37 | 1.238 | 17.56 | 7.89 | 4.51 | 108 | -398 | 3 | 0.26 |
| 4/17/2012 | 3:35:33 | 21.37 | 1.238 | 17.56 | 7.889 | 4.51 | 107.9 | -399 | 3 | 0.26 |
| 4/17/2012 | 3:40:33 | 21.37 | 1.238 | 17.56 | 7.89 | 4.52 | 107.7 | -398 | 3 | 0.26 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 3:45:33 | 21.37 | 1.238 | 17.56 | 7.887 | 4.52 | 107.5 | -400 | 3 | 0.26 |
| 4/17/2012 | 3:50:33 | 21.37 | 1.238 | 17.56 | 7.89 | 4.53 | 107.2 | -401 | 3 | 0.26 |
| 4/17/2012 | 3:55:33 | 21.37 | 1.238 | 17.56 | 7.89 | 4.53 | 107.1 | -402 | 3 | 0.26 |
| 4/17/2012 | 4:00:33 | 21.37 | 1.238 | 17.56 | 7.888 | 4.53 | 107.1 | -402 | 3 | 0.26 |
| 4/17/2012 | 4:05:33 | 21.37 | 1.238 | 17.56 | 7.886 | 4.53 | 107 | -402 | 3 | 0.26 |
| 4/17/2012 | 4:10:33 | 21.37 | 1.238 | 17.55 | 7.861 | 4.53 | 106.9 | -400 | 3 | 0.26 |
| 4/17/2012 | 4:15:33 | 21.37 | 1.238 | 17.55 | 7.866 | 4.53 | 106.9 | -398 | 3 | 0.26 |
| 4/17/2012 | 4:20:33 | 21.37 | 1.237 | 17.56 | 7.876 | 4.53 | 106.8 | -397 | 3 | 0.26 |
| 4/17/2012 | 4:25:33 | 21.37 | 1.237 | 17.56 | 7.882 | 4.54 | 106.5 | -397 | 3 | 0.26 |
| 4/17/2012 | 4:30:33 | 21.37 | 1.237 | 17.56 | 7.884 | 4.54 | 106.4 | -397 | 3 | 0.26 |
| 4/17/2012 | 4:35:33 | 21.37 | 1.237 | 17.56 | 7.888 | 4.53 | 106.8 | -397 | 3 | 0.26 |
| 4/17/2012 | 4:40:33 | 21.37 | 1.237 | 17.56 | 7.889 | 4.53 | 107.2 | -398 | 3 | 0.26 |
| 4/17/2012 | 4:45:33 | 21.37 | 1.236 | 17.56 | 7.89 | 4.52 | 107.5 | -399 | 3 | 0.26 |
| 4/17/2012 | 4:50:33 | 21.37 | 1.236 | 17.56 | 7.89 | 4.52 | 107.6 | -400 | 3 | 0.26 |
| 4/17/2012 | 4:55:33 | 21.37 | 1.236 | 17.57 | 7.892 | 4.51 | 108.3 | -402 | 3 | 0.26 |
| 4/17/2012 | 5:00:33 | 21.37 | 1.237 | 17.57 | 7.894 | 4.51 | 108.2 | -404 | 3 | 0.26 |
| 4/17/2012 | 5:05:33 | 21.37 | 1.237 | 17.57 | 7.896 | 4.52 | 107.7 | -404 | 3 | 0.26 |
| 4/17/2012 | 5:10:33 | 21.37 | 1.236 | 17.57 | 7.897 | 4.52 | 107.4 | -403 | 3 | 0.26 |
| 4/17/2012 | 5:15:33 | 21.37 | 1.236 | 17.57 | 7.897 | 4.52 | 107.4 | -403 | 3 | 0.26 |
| 4/17/2012 | 5:20:33 | 21.37 | 1.236 | 17.57 | 7.901 | 4.52 | 107.4 | -403 | 3 | 0.26 |
| 4/17/2012 | 5:25:33 | 21.37 | 1.235 | 17.57 | 7.902 | 4.52 | 107.6 | -403 | 3 | 0.26 |
| 4/17/2012 | 5:30:33 | 21.37 | 1.235 | 17.57 | 7.903 | 4.52 | 107.5 | -404 | 3 | 0.26 |
| 4/17/2012 | 5:35:33 | 21.37 | 1.235 | 17.57 | 7.903 | 4.52 | 107.5 | -404 | 3 | 0.26 |
| 4/17/2012 | 5:40:33 | 21.37 | 1.235 | 17.57 | 7.906 | 4.52 | 107.6 | -404 | 3 | 0.26 |
| 4/17/2012 | 5:45:33 | 21.37 | 1.235 | 17.57 | 7.91 | 4.52 | 107.5 | -404 | 3 | 0.26 |
| 4/17/2012 | 5:50:33 | 21.37 | 1.235 | 17.57 | 7.912 | 4.52 | 107.4 | -404 | 3 | 0.26 |
| 4/17/2012 | 5:55:33 | 21.37 | 1.235 | 17.57 | 7.914 | 4.52 | 107.5 | -404 | 3 | 0.26 |
| 4/17/2012 | 6:00:33 | 21.37 | 1.235 | 17.58 | 7.915 | 4.52 | 107.5 | -404 | 3 | 0.26 |
| 4/17/2012 | 6:05:33 | 21.37 | 1.235 | 17.58 | 7.919 | 4.52 | 107.4 | -404 | 3 | 0.26 |
| 4/17/2012 | 6:10:33 | 21.37 | 1.235 | 17.58 | 7.921 | 4.52 | 107.5 | -405 | 3 | 0.26 |
| 4/17/2012 | 6:15:33 | 21.37 | 1.235 | 17.58 | 7.923 | 4.52 | 107.6 | -405 | 3 | 0.26 |
| 4/17/2012 | 6:20:33 | 21.37 | 1.235 | 17.58 | 7.926 | 4.52 | 107.6 | -405 | 3 | 0.26 |
| 4/17/2012 | 6:25:33 | 21.37 | 1.235 | 17.58 | 7.93 | 4.52 | 107.7 | -406 | 3 | 0.26 |
| 4/17/2012 | 6:30:33 | 21.37 | 1.235 | 17.58 | 7.932 | 4.52 | 107.5 | -406 | 3 | 0.26 |
| 4/17/2012 | 6:35:33 | 21.37 | 1.235 | 17.58 | 7.936 | 4.52 | 107.6 | -406 | 3 | 0.26 |
| 4/17/2012 | 6:40:33 | 21.37 | 1.235 | 17.59 | 7.941 | 4.52 | 107.4 | -406 | 3 | 0.26 |
| 4/17/2012 | 6:45:33 | 21.37 | 1.235 | 17.59 | 7.944 | 4.53 | 107.1 | -406 | 3 | 0.26 |
| 4/17/2012 | 6:50:33 | 21.37 | 1.235 | 17.59 | 7.947 | 4.53 | 107.2 | -406 | 3 | 0.26 |
| 4/17/2012 | 6:55:33 | 21.38 | 1.235 | 17.59 | 7.95 | 4.53 | 107.2 | -406 | 3 | 0.26 |
| 4/17/2012 | 7:00:33 | 21.38 | 1.236 | 17.59 | 7.955 | 4.52 | 107.4 | -407 | 3 | 0.26 |
| 4/17/2012 | 7:05:33 | 21.37 | 1.236 | 17.59 | 7.959 | 4.52 | 107.5 | -408 | 3 | 0.26 |
| 4/17/2012 | 7:10:33 | 21.38 | 1.236 | 17.6 | 7.963 | 4.52 | 107.6 | -409 | 3 | 0.26 |
| 4/17/2012 | 7:15:33 | 21.37 | 1.236 | 17.6 | 7.967 | 4.51 | 107.8 | -409 | 3 | 0.26 |
| 4/17/2012 | 7:20:33 | 21.38 | 1.236 | 17.6 | 7.971 | 4.51 | 108.1 | -410 | 3 | 0.26 |
| 4/17/2012 | 7:25:33 | 21.38 | 1.236 | 17.6 | 7.973 | 4.51 | 108.2 | -410 | 3 | 0.26 |
| 4/17/2012 | 7:30:33 | 21.37 | 1.236 | 17.6 | 7.976 | 4.51 | 108.1 | -410 | 3 | 0.26 |
| 4/17/2012 | 7:35:33 | 21.37 | 1.236 | 17.6 | 7.981 | 4.51 | 108.1 | -411 | 3 | 0.26 |
| 4/17/2012 | 7:40:33 | 21.37 | 1.236 | 17.6 | 7.982 | 4.51 | 108.3 | -411 | 3 | 0.26 |
| 4/17/2012 | 7:45:33 | 21.37 | 1.236 | 17.61 | 7.986 | 4.51 | 108.3 | -411 | 3 | 0.26 |
| 4/17/2012 | 7:50:33 | 21.37 | 1.236 | 17.61 | 7.991 | 4.51 | 108.3 | -411 | 3 | 0.26 |
| 4/17/2012 | 7:55:33 | 21.37 | 1.236 | 17.61 | 7.994 | 4.5 | 108.4 | -411 | 3 | 0.26 |
| 4/17/2012 | 8:00:33 | 21.37 | 1.236 | 17.61 | 7.999 | 4.5 | 108.5 | -412 | 3 | 0.26 |
| 4/17/2012 | 8:05:33 | 21.37 | 1.236 | 17.61 | 8.001 | 4.5 | 108.8 | -412 | 3 | 0.26 |
| 4/17/2012 | 8:10:33 | 21.37 | 1.236 | 17.61 | 8.004 | 4.5 | 108.9 | -412 | 3 | 0.26 |
| 4/17/2012 | 8:15:33 | 21.37 | 1.236 | 17.62 | 8.01 | 4.49 | 108.9 | -411 | 3 | 0.26 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 8:20:33 | 21.37 | 1.236 | 17.62 | 8.015 | 4.49 | 109.1 | -412 | 3 | 0.26 |
| 4/17/2012 | 8:25:33 | 21.37 | 1.236 | 17.62 | 8.016 | 4.49 | 109.1 | -412 | 3 | 0.26 |
| 4/17/2012 | 8:30:33 | 21.37 | 1.236 | 17.62 | 8.017 | 4.49 | 109.2 | -412 | 3 | 0.26 |
| 4/17/2012 | 8:35:33 | 21.37 | 1.236 | 17.62 | 8.021 | 4.49 | 109.3 | -412 | 3 | 0.26 |
| 4/17/2012 | 8:40:33 | 21.37 | 1.236 | 17.62 | 8.026 | 4.49 | 109.3 | -412 | 3 | 0.26 |
| 4/17/2012 | 8:45:33 | 21.37 | 1.236 | 17.63 | 8.03 | 4.49 | 109.4 | -412 | 3 | 0.26 |
| 4/17/2012 | 8:50:33 | 21.38 | 1.236 | 17.63 | 8.032 | 4.49 | 109.4 | -412 | 3 | 0.26 |
| 4/17/2012 | 8:55:33 | 21.38 | 1.236 | 17.63 | 8.035 | 4.49 | 109.4 | -412 | 3 | 0.26 |
| 4/17/2012 | 9:00:33 | 21.38 | 1.236 | 17.63 | 8.038 | 4.49 | 109.4 | -411 | 3 | 0.26 |
| 4/17/2012 | 9:05:33 | 21.38 | 1.236 | 17.63 | 8.04 | 4.49 | 109.5 | -411 | 3 | 0.26 |
| 4/17/2012 | 9:10:33 | 21.38 | 1.236 | 17.63 | 8.044 | 4.49 | 109.4 | -410 | 3 | 0.26 |
| 4/17/2012 | 9:15:33 | 21.38 | 1.236 | 17.63 | 8.047 | 4.49 | 109.4 | -411 | 3 | 0.26 |
| 4/17/2012 | 9:20:33 | 21.38 | 1.236 | 17.63 | 8.046 | 4.49 | 109.4 | -412 | 3 | 0.26 |
| 4/17/2012 | 9:25:33 | 21.38 | 1.237 | 17.63 | 8.047 | 4.49 | 109.3 | -412 | 3 | 0.26 |
| 4/17/2012 | 9:30:33 | 21.38 | 1.237 | 17.63 | 8.049 | 4.49 | 109.3 | -413 | 3 | 0.26 |
| 4/17/2012 | 9:35:33 | 21.38 | 1.237 | 17.63 | 8.051 | 4.49 | 109.4 | -413 | 3 | 0.26 |
| 4/17/2012 | 9:40:33 | 21.38 | 1.237 | 17.63 | 8.046 | 4.49 | 109.4 | -413 | 3 | 0.26 |
| 4/17/2012 | 9:45:33 | 21.38 | 1.237 | 17.63 | 8.046 | 4.48 | 109.7 | -414 | 3 | 0.26 |
| 4/17/2012 | 9:50:33 | 21.38 | 1.237 | 17.63 | 8.046 | 4.48 | 109.8 | -414 | 3 | 0.26 |
| 4/17/2012 | 9:55:33 | 21.38 | 1.237 | 17.63 | 8.044 | 4.48 | 109.9 | -414 | 3 | 0.26 |
| 4/17/2012 | 10:00:33 | 21.38 | 1.238 | 17.63 | 8.043 | 4.48 | 110 | -414 | 3 | 0.26 |
| 4/17/2012 | 10:05:33 | 21.38 | 1.238 | 17.63 | 8.039 | 4.48 | 110 | -415 | 3 | 0.26 |
| 4/17/2012 | 10:10:33 | 21.38 | 1.238 | 17.63 | 8.036 | 4.48 | 110 | -415 | 3 | 0.26 |
| 4/17/2012 | 10:15:33 | 21.38 | 1.238 | 17.63 | 8.037 | 4.48 | 110 | -414 | 3 | 0.26 |
| 4/17/2012 | 10:20:33 | 21.38 | 1.239 | 17.63 | 8.034 | 4.48 | 110 | -415 | 3 | 0.26 |
| 4/17/2012 | 10:25:33 | 21.38 | 1.239 | 17.63 | 8.033 | 4.48 | 110 | -415 | 3 | 0.26 |
| 4/17/2012 | 10:30:33 | 21.38 | 1.239 | 17.62 | 8.029 | 4.48 | 109.9 | -415 | 3 | 0.26 |
| 4/17/2012 | 10:35:33 | 21.38 | 1.239 | 17.62 | 8.029 | 4.48 | 109.9 | -415 | 3 | 0.26 |
| 4/17/2012 | 10:40:33 | 21.38 | 1.24 | 17.62 | 8.023 | 4.48 | 109.9 | -415 | 3 | 0.26 |
| 4/17/2012 | 10:45:33 | 21.38 | 1.24 | 17.62 | 8.023 | 4.48 | 109.9 | -414 | 3 | 0.26 |
| 4/17/2012 | 10:50:33 | 21.38 | 1.24 | 17.62 | 8.02 | 4.48 | 109.9 | -414 | 3 | 0.26 |
| 4/17/2012 | 10:55:33 | 21.38 | 1.24 | 17.62 | 8.016 | 4.48 | 109.9 | -414 | 3 | 0.26 |
| 4/17/2012 | 11:00:33 | 21.38 | 1.24 | 17.62 | 8.012 | 4.48 | 109.9 | -414 | 3 | 0.26 |
| 4/17/2012 | 11:05:33 | 21.38 | 1.24 | 17.62 | 8.008 | 4.48 | 109.9 | -415 | 3 | 0.26 |
| 4/17/2012 | 11:10:33 | 21.38 | 1.241 | 17.62 | 8.009 | 4.48 | 109.9 | -416 | 3 | 0.26 |
| 4/17/2012 | 11:15:33 | 21.38 | 1.241 | 17.61 | 8.004 | 4.48 | 109.9 | -416 | 3 | 0.26 |
| 4/17/2012 | 11:20:33 | 21.38 | 1.24 | 17.61 | 8 | 4.48 | 109.9 | -416 | 3 | 0.26 |
| 4/17/2012 | 11:25:33 | 21.38 | 1.241 | 17.61 | 7.994 | 4.48 | 109.9 | -416 | 3 | 0.26 |
| 4/17/2012 | 11:30:33 | 21.38 | 1.241 | 17.61 | 7.991 | 4.48 | 109.9 | -416 | 3 | 0.26 |
| 4/17/2012 | 11:35:33 | 21.38 | 1.241 | 17.61 | 7.986 | 4.48 | 109.9 | -416 | 3 | 0.26 |
| 4/17/2012 | 11:40:33 | 21.38 | 1.241 | 17.6 | 7.984 | 4.48 | 109.8 | -416 | 3 | 0.26 |
| 4/17/2012 | 11:45:33 | 21.38 | 1.241 | 17.6 | 7.982 | 4.48 | 109.8 | -416 | 3 | 0.26 |
| 4/17/2012 | 11:50:33 | 21.38 | 1.241 | 17.6 | 7.976 | 4.48 | 109.7 | -415 | 3 | 0.26 |
| 4/17/2012 | 11:55:33 | 21.38 | 1.241 | 17.6 | 7.973 | 4.48 | 109.7 | -415 | 3 | 0.26 |
| 4/17/2012 | 12:00:33 | 21.38 | 1.241 | 17.6 | 7.97 | 4.48 | 109.8 | -416 | 3 | 0.26 |
| 4/17/2012 | 12:05:33 | 21.38 | 1.241 | 17.6 | 7.964 | 4.48 | 109.8 | -415 | 3 | 0.26 |
| 4/17/2012 | 12:10:33 | 21.38 | 1.241 | 17.59 | 7.96 | 4.48 | 109.8 | -416 | 3 | 0.26 |
| 4/17/2012 | 12:15:33 | 21.38 | 1.241 | 17.59 | 7.957 | 4.48 | 109.8 | -416 | 3 | 0.26 |
| 4/17/2012 | 12:20:33 | 21.38 | 1.241 | 17.59 | 7.954 | 4.48 | 109.7 | -416 | 3 | 0.26 |
| 4/17/2012 | 12:25:33 | 21.38 | 1.241 | 17.59 | 7.95 | 4.48 | 109.7 | -416 | 3 | 0.26 |
| 4/17/2012 | 12:30:33 | 21.38 | 1.241 | 17.59 | 7.946 | 4.48 | 109.7 | -416 | 3 | 0.26 |
| 4/17/2012 | 12:35:33 | 21.38 | 1.24 | 17.59 | 7.941 | 4.48 | 109.6 | -416 | 3 | 0.26 |
| 4/17/2012 | 12:40:33 | 21.38 | 1.241 | 17.59 | 7.939 | 4.49 | 109.5 | -416 | 3 | 0.26 |
| 4/17/2012 | 12:45:33 | 21.38 | 1.241 | 17.58 | 7.936 | 4.49 | 109.4 | -416 | 3 | 0.26 |
| 4/17/2012 | 12:50:33 | 21.38 | 1.241 | 17.58 | 7.932 | 4.49 | 109.4 | -416 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 12:55:33 | 21.38 | 1.241 | 17.58 | 7.93 | 4.49 | 109.4 | -416 | 3 | 0.26 |
| 4/17/2012 | 13:00:33 | 21.38 | 1.241 | 17.58 | 7.924 | 4.49 | 109.3 | -415 | 3 | 0.26 |
| 4/17/2012 | 13:05:33 | 21.38 | 1.241 | 17.58 | 7.921 | 4.49 | 109.2 | -415 | 3 | 0.26 |
| 4/17/2012 | 13:10:33 | 21.38 | 1.241 | 17.58 | 7.92 | 4.49 | 109.1 | -415 | 3 | 0.26 |
| 4/17/2012 | 13:15:33 | 21.38 | 1.241 | 17.58 | 7.918 | 4.49 | 109 | -415 | 3 | 0.26 |
| 4/17/2012 | 13:20:33 | 21.39 | 1.24 | 17.57 | 7.913 | 4.5 | 108.8 | -415 | 3 | 0.26 |
| 4/17/2012 | 13:25:33 | 21.39 | 1.24 | 17.57 | 7.913 | 4.5 | 108.8 | -414 | 3 | 0.26 |
| 4/17/2012 | 13:30:33 | 21.39 | 1.24 | 17.57 | 7.911 | 4.5 | 108.6 | -414 | 3 | 0.26 |
| 4/17/2012 | 13:35:33 | 21.39 | 1.24 | 17.57 | 7.909 | 4.5 | 108.7 | -415 | 3 | 0.26 |
| 4/17/2012 | 13:40:33 | 21.39 | 1.24 | 17.57 | 7.905 | 4.5 | 108.5 | -416 | 3 | 0.26 |
| 4/17/2012 | 13:45:33 | 21.39 | 1.24 | 17.57 | 7.901 | 4.51 | 108.3 | -415 | 3 | 0.26 |
| 4/17/2012 | 13:50:33 | 21.39 | 1.24 | 17.57 | 7.899 | 4.51 | 108.2 | -414 | 3 | 0.26 |
| 4/17/2012 | 13:55:33 | 21.39 | 1.239 | 17.57 | 7.898 | 4.51 | 108.1 | -412 | 3 | 0.26 |
| 4/17/2012 | 14:00:33 | 21.39 | 1.239 | 17.57 | 7.898 | 4.51 | 108 | -411 | 3 | 0.26 |
| 4/17/2012 | 14:05:33 | 21.39 | 1.239 | 17.57 | 7.896 | 4.51 | 107.9 | -410 | 3 | 0.26 |
| 4/17/2012 | 14:10:33 | 21.39 | 1.239 | 17.57 | 7.894 | 4.52 | 107.8 | -408 | 3 | 0.26 |
| 4/17/2012 | 14:15:33 | 21.39 | 1.238 | 17.56 | 7.891 | 4.52 | 107.8 | -406 | 3 | 0.26 |
| 4/17/2012 | 14:20:33 | 21.39 | 1.238 | 17.56 | 7.887 | 4.52 | 107.7 | -404 | 3 | 0.26 |
| 4/17/2012 | 14:25:33 | 21.39 | 1.238 | 17.56 | 7.886 | 4.52 | 107.5 | -402 | 3 | 0.26 |
| 4/17/2012 | 14:30:33 | 21.39 | 1.238 | 17.56 | 7.883 | 4.52 | 107.6 | -402 | 3 | 0.26 |
| 4/17/2012 | 14:35:33 | 21.39 | 1.237 | 17.56 | 7.881 | 4.52 | 107.7 | -402 | 3 | 0.26 |
| 4/17/2012 | 14:40:33 | 21.39 | 1.237 | 17.56 | 7.879 | 4.52 | 107.8 | -403 | 3 | 0.26 |
| 4/17/2012 | 14:45:33 | 21.39 | 1.237 | 17.56 | 7.877 | 4.52 | 107.7 | -403 | 3 | 0.26 |
| 4/17/2012 | 14:50:33 | 21.39 | 1.237 | 17.56 | 7.874 | 4.52 | 107.7 | -403 | 3 | 0.26 |
| 4/17/2012 | 14:55:33 | 21.39 | 1.236 | 17.56 | 7.871 | 4.52 | 107.7 | -401 | 3 | 0.26 |
| 4/17/2012 | 15:00:33 | 21.39 | 1.236 | 17.55 | 7.868 | 4.52 | 107.6 | -401 | 3 | 0.26 |
| 4/17/2012 | 15:05:33 | 21.39 | 1.236 | 17.55 | 7.865 | 4.52 | 107.6 | -400 | 3 | 0.26 |
| 4/17/2012 | 15:10:33 | 21.39 | 1.236 | 17.55 | 7.863 | 4.52 | 107.5 | -399 | 3 | 0.26 |
| 4/17/2012 | 15:15:33 | 21.39 | 1.235 | 17.55 | 7.863 | 4.52 | 107.5 | -399 | 3 | 0.26 |
| 4/17/2012 | 15:20:33 | 21.39 | 1.235 | 17.55 | 7.859 | 4.52 | 107.5 | -400 | 3 | 0.26 |
| 4/17/2012 | 15:25:33 | 21.39 | 1.235 | 17.55 | 7.857 | 4.52 | 107.5 | -401 | 3 | 0.26 |
| 4/17/2012 | 15:30:33 | 21.39 | 1.235 | 17.55 | 7.86 | 4.52 | 107.4 | -401 | 3 | 0.26 |
| 4/17/2012 | 15:35:33 | 21.39 | 1.235 | 17.55 | 7.86 | 4.52 | 107.5 | -400 | 3 | 0.26 |
| 4/17/2012 | 15:40:33 | 21.39 | 1.234 | 17.55 | 7.859 | 4.52 | 107.4 | -400 | 3 | 0.26 |
| 4/17/2012 | 15:45:33 | 21.39 | 1.234 | 17.55 | 7.858 | 4.53 | 107.2 | -399 | 3 | 0.26 |
| 4/17/2012 | 15:50:33 | 21.39 | 1.234 | 17.55 | 7.856 | 4.52 | 107.4 | -400 | 3 | 0.26 |
| 4/17/2012 | 15:55:33 | 21.39 | 1.234 | 17.55 | 7.853 | 4.52 | 107.5 | -400 | 3 | 0.26 |
| 4/17/2012 | 16:00:33 | 21.39 | 1.234 | 17.55 | 7.852 | 4.52 | 107.8 | -401 | 3 | 0.26 |
| 4/17/2012 | 16:05:33 | 21.39 | 1.234 | 17.55 | 7.85 | 4.51 | 108 | -402 | 3 | 0.26 |
| 4/17/2012 | 16:10:33 | 21.39 | 1.234 | 17.55 | 7.851 | 4.51 | 107.8 | -402 | 3 | 0.26 |
| 4/17/2012 | 16:15:33 | 21.39 | 1.233 | 17.55 | 7.849 | 4.52 | 107.7 | -403 | 3 | 0.26 |
| 4/17/2012 | 16:20:33 | 21.39 | 1.233 | 17.55 | 7.849 | 4.52 | 107.5 | -403 | 3 | 0.26 |
| 4/17/2012 | 16:25:33 | 21.39 | 1.233 | 17.55 | 7.847 | 4.52 | 107.5 | -402 | 3 | 0.26 |
| 4/17/2012 | 16:30:33 | 21.39 | 1.233 | 17.55 | 7.849 | 4.52 | 107.6 | -402 | 3 | 0.26 |
| 4/17/2012 | 16:35:33 | 21.39 | 1.233 | 17.55 | 7.846 | 4.52 | 107.6 | -403 | 3 | 0.26 |
| 4/17/2012 | 16:40:33 | 21.39 | 1.233 | 17.54 | 7.843 | 4.52 | 107.8 | -404 | 3 | 0.26 |
| 4/17/2012 | 16:45:33 | 21.39 | 1.232 | 17.54 | 7.845 | 4.52 | 107.8 | -404 | 3 | 0.26 |
| 4/17/2012 | 16:50:33 | 21.39 | 1.232 | 17.54 | 7.843 | 4.52 | 107.5 | -403 | 3 | 0.26 |
| 4/17/2012 | 16:55:33 | 21.39 | 1.232 | 17.55 | 7.845 | 4.52 | 107.3 | -403 | 3 | 0.26 |
| 4/17/2012 | 17:00:33 | 21.39 | 1.232 | 17.54 | 7.844 | 4.53 | 107.2 | -402 | 3 | 0.26 |
| 4/17/2012 | 17:05:33 | 21.39 | 1.232 | 17.54 | 7.843 | 4.53 | 107.2 | -402 | 3 | 0.26 |
| 4/17/2012 | 17:10:33 | 21.39 | 1.232 | 17.54 | 7.843 | 4.53 | 107.2 | -402 | 3 | 0.26 |
| 4/17/2012 | 17:15:33 | 21.39 | 1.232 | 17.54 | 7.844 | 4.52 | 107.3 | -403 | 3 | 0.26 |
| 4/17/2012 | 17:20:33 | 21.39 | 1.232 | 17.54 | 7.843 | 4.52 | 107.5 | -404 | 3 | 0.26 |
| 4/17/2012 | 17:25:33 | 21.39 | 1.231 | 17.54 | 7.843 | 4.52 | 107.6 | -403 | 3 | 0.26 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 17:30:33 | 21.39 | 1.231 | 17.54 | 7.843 | 4.53 | 107.2 | -402 | 3 | 0.26 |
| 4/17/2012 | 17:35:33 | 21.39 | 1.232 | 17.54 | 7.844 | 4.53 | 107.1 | -403 | 3 | 0.26 |
| 4/17/2012 | 17:40:33 | 21.39 | 1.232 | 17.54 | 7.845 | 4.53 | 107.2 | -403 | 3 | 0.26 |
| 4/17/2012 | 17:45:33 | 21.39 | 1.232 | 17.55 | 7.848 | 4.52 | 107.3 | -403 | 3 | 0.26 |
| 4/17/2012 | 17:50:33 | 21.39 | 1.231 | 17.55 | 7.849 | 4.53 | 107.2 | -403 | 3 | 0.26 |
| 4/17/2012 | 17:55:33 | 21.39 | 1.232 | 17.55 | 7.851 | 4.52 | 107.5 | -403 | 3 | 0.26 |
| 4/17/2012 | 18:00:33 | 21.39 | 1.232 | 17.55 | 7.853 | 4.52 | 107.7 | -403 | 3 | 0.26 |
| 4/17/2012 | 18:05:33 | 21.39 | 1.232 | 17.55 | 7.854 | 4.51 | 107.8 | -403 | 3 | 0.26 |
| 4/17/2012 | 18:10:33 | 21.39 | 1.231 | 17.55 | 7.857 | 4.51 | 108.1 | -404 | 3 | 0.26 |
| 4/17/2012 | 18:15:33 | 21.39 | 1.231 | 17.55 | 7.86 | 4.51 | 108.2 | -405 | 3 | 0.26 |
| 4/17/2012 | 18:20:33 | 21.39 | 1.232 | 17.55 | 7.861 | 4.5 | 108.5 | -404 | 3 | 0.26 |
| 4/17/2012 | 18:25:33 | 21.39 | 1.231 | 17.55 | 7.864 | 4.5 | 108.6 | -404 | 3 | 0.26 |
| 4/17/2012 | 18:30:33 | 21.39 | 1.232 | 17.55 | 7.868 | 4.5 | 108.7 | -403 | 3 | 0.26 |
| 4/17/2012 | 18:35:33 | 21.39 | 1.231 | 17.56 | 7.868 | 4.5 | 108.8 | -403 | 3 | 0.26 |
| 4/17/2012 | 18:40:33 | 21.39 | 1.232 | 17.56 | 7.872 | 4.49 | 109 | -403 | 3 | 0.26 |
| 4/17/2012 | 18:45:33 | 21.39 | 1.231 | 17.56 | 7.877 | 4.5 | 108.9 | -403 | 3 | 0.26 |
| 4/17/2012 | 18:50:33 | 21.39 | 1.231 | 17.56 | 7.877 | 4.5 | 108.9 | -403 | 3 | 0.26 |
| 4/17/2012 | 18:55:33 | 21.39 | 1.231 | 17.56 | 7.876 | 4.5 | 108.9 | -404 | 3 | 0.26 |
| 4/17/2012 | 19:00:33 | 21.39 | 1.231 | 17.56 | 7.883 | 4.49 | 109.1 | -404 | 3 | 0.26 |
| 4/17/2012 | 19:05:33 | 21.39 | 1.231 | 17.56 | 7.884 | 4.49 | 109.1 | -404 | 3 | 0.26 |
| 4/17/2012 | 19:10:33 | 21.39 | 1.231 | 17.56 | 7.886 | 4.49 | 109.1 | -404 | 3 | 0.26 |
| 4/17/2012 | 19:15:33 | 21.39 | 1.23 | 17.56 | 7.889 | 4.49 | 109.1 | -404 | 3 | 0.26 |
| 4/17/2012 | 19:20:33 | 21.39 | 1.23 | 17.57 | 7.893 | 4.49 | 109.2 | -404 | 3 | 0.26 |
| 4/17/2012 | 19:25:33 | 21.39 | 1.23 | 17.57 | 7.893 | 4.49 | 109.3 | -405 | 3 | 0.26 |
| 4/17/2012 | 19:30:33 | 21.39 | 1.23 | 17.57 | 7.897 | 4.49 | 109.4 | -405 | 3 | 0.26 |
| 4/17/2012 | 19:35:33 | 21.39 | 1.23 | 17.57 | 7.901 | 4.48 | 109.6 | -405 | 3 | 0.26 |
| 4/17/2012 | 19:40:33 | 21.39 | 1.231 | 17.57 | 7.904 | 4.48 | 109.6 | -406 | 3 | 0.26 |
| 4/17/2012 | 19:45:33 | 21.39 | 1.231 | 17.57 | 7.907 | 4.48 | 109.7 | -406 | 3 | 0.26 |
| 4/17/2012 | 19:50:33 | 21.39 | 1.231 | 17.57 | 7.908 | 4.48 | 109.7 | -406 | 3 | 0.26 |
| 4/17/2012 | 19:55:33 | 21.39 | 1.231 | 17.57 | 7.913 | 4.48 | 109.8 | -406 | 3 | 0.26 |
| 4/17/2012 | 20:00:33 | 21.39 | 1.231 | 17.58 | 7.917 | 4.48 | 109.8 | -407 | 3 | 0.26 |
| 4/17/2012 | 20:05:33 | 21.39 | 1.231 | 17.58 | 7.921 | 4.48 | 109.9 | -407 | 3 | 0.26 |
| 4/17/2012 | 20:10:33 | 21.39 | 1.231 | 17.58 | 7.923 | 4.48 | 109.9 | -408 | 3 | 0.26 |
| 4/17/2012 | 20:15:33 | 21.39 | 1.231 | 17.58 | 7.927 | 4.48 | 110 | -408 | 3 | 0.26 |
| 4/17/2012 | 20:20:33 | 21.39 | 1.231 | 17.58 | 7.931 | 4.47 | 110.2 | -408 | 3 | 0.26 |
| 4/17/2012 | 20:25:33 | 21.39 | 1.231 | 17.58 | 7.934 | 4.47 | 110.4 | -409 | 3 | 0.26 |
| 4/17/2012 | 20:30:33 | 21.39 | 1.231 | 17.58 | 7.935 | 4.47 | 110.5 | -409 | 3 | 0.26 |
| 4/17/2012 | 20:35:33 | 21.39 | 1.231 | 17.59 | 7.94 | 4.46 | 110.7 | -410 | 3 | 0.26 |
| 4/17/2012 | 20:40:33 | 21.39 | 1.231 | 17.59 | 7.945 | 4.47 | 110.6 | -410 | 3 | 0.26 |
| 4/17/2012 | 20:45:33 | 21.39 | 1.231 | 17.59 | 7.947 | 4.47 | 110.5 | -410 | 3 | 0.26 |
| 4/17/2012 | 20:50:33 | 21.39 | 1.232 | 17.59 | 7.951 | 4.47 | 110.4 | -411 | 3 | 0.26 |
| 4/17/2012 | 20:55:33 | 21.39 | 1.232 | 17.59 | 7.954 | 4.47 | 110.2 | -411 | 3 | 0.26 |
| 4/17/2012 | 21:00:33 | 21.39 | 1.232 | 17.59 | 7.957 | 4.48 | 110.1 | -411 | 3 | 0.26 |
| 4/17/2012 | 21:05:33 | 21.39 | 1.233 | 17.6 | 7.963 | 4.48 | 110 | -412 | 3 | 0.26 |
| 4/17/2012 | 21:10:33 | 21.39 | 1.233 | 17.6 | 7.963 | 4.48 | 110 | -412 | 3 | 0.26 |
| 4/17/2012 | 21:15:33 | 21.39 | 1.233 | 17.6 | 7.968 | 4.47 | 110.2 | -412 | 3 | 0.26 |
| 4/17/2012 | 21:20:33 | 21.39 | 1.234 | 17.6 | 7.972 | 4.47 | 110.3 | -412 | 3 | 0.26 |
| 4/17/2012 | 21:25:33 | 21.39 | 1.234 | 17.6 | 7.975 | 4.47 | 110.3 | -412 | 3 | 0.26 |
| 4/17/2012 | 21:30:33 | 21.39 | 1.234 | 17.6 | 7.975 | 4.47 | 110.3 | -412 | 3 | 0.26 |
| 4/17/2012 | 21:35:33 | 21.39 | 1.235 | 17.6 | 7.977 | 4.47 | 110.3 | -412 | 3 | 0.26 |
| 4/17/2012 | 21:40:33 | 21.39 | 1.235 | 17.6 | 7.977 | 4.47 | 110.1 | -412 | 3 | 0.26 |
| 4/17/2012 | 21:45:33 | 21.39 | 1.235 | 17.6 | 7.978 | 4.48 | 109.9 | -412 | 3 | 0.26 |
| 4/17/2012 | 21:50:33 | 21.39 | 1.236 | 17.6 | 7.983 | 4.48 | 109.7 | -412 | 3 | 0.26 |
| 4/17/2012 | 21:55:33 | 21.39 | 1.236 | 17.61 | 7.987 | 4.48 | 109.6 | -412 | 3 | 0.26 |
| 4/17/2012 | 22:00:33 | 21.39 | 1.236 | 17.61 | 7.988 | 4.49 | 109.5 | -413 | 3 | 0.26 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2012 | 22:05:33 | 21.39 | 1.236 | 17.61 | 7.987 | 4.49 | 109.5 | -412 | 3 | 0.26 |
| 4/17/2012 | 22:10:33 | 21.39 | 1.237 | 17.61 | 7.986 | 4.49 | 109.4 | -413 | 3 | 0.26 |
| 4/17/2012 | 22:15:33 | 21.39 | 1.236 | 17.6 | 7.982 | 4.49 | 109.4 | -413 | 3 | 0.26 |
| 4/17/2012 | 22:20:33 | 21.39 | 1.237 | 17.6 | 7.982 | 4.49 | 109.5 | -413 | 3 | 0.26 |
| 4/17/2012 | 22:25:33 | 21.4 | 1.237 | 17.6 | 7.982 | 4.49 | 109.6 | -413 | 3 | 0.26 |
| 4/17/2012 | 22:30:33 | 21.39 | 1.237 | 17.6 | 7.982 | 4.48 | 109.6 | -413 | 3 | 0.26 |
| 4/17/2012 | 22:35:33 | 21.4 | 1.237 | 17.6 | 7.979 | 4.48 | 109.7 | -413 | 3 | 0.26 |
| 4/17/2012 | 22:40:33 | 21.4 | 1.237 | 17.6 | 7.976 | 4.48 | 109.9 | -413 | 3 | 0.26 |
| 4/17/2012 | 22:45:33 | 21.4 | 1.237 | 17.6 | 7.975 | 4.48 | 110 | -413 | 3 | 0.26 |
| 4/17/2012 | 22:50:33 | 21.4 | 1.237 | 17.6 | 7.974 | 4.48 | 110.1 | -413 | 3 | 0.26 |
| 4/17/2012 | 22:55:33 | 21.4 | 1.237 | 17.6 | 7.97 | 4.47 | 110.3 | -413 | 3 | 0.26 |
| 4/17/2012 | 23:00:33 | 21.4 | 1.237 | 17.6 | 7.968 | 4.47 | 110.4 | -413 | 3 | 0.26 |
| 4/17/2012 | 23:05:33 | 21.4 | 1.237 | 17.6 | 7.966 | 4.47 | 110.5 | -413 | 3 | 0.26 |
| 4/17/2012 | 23:10:33 | 21.4 | 1.237 | 17.6 | 7.962 | 4.47 | 110.6 | -413 | 3 | 0.26 |
| 4/17/2012 | 23:15:33 | 21.4 | 1.237 | 17.59 | 7.958 | 4.47 | 110.7 | -413 | 3 | 0.26 |
| 4/17/2012 | 23:20:33 | 21.4 | 1.238 | 17.59 | 7.954 | 4.46 | 110.8 | -413 | 3 | 0.26 |
| 4/17/2012 | 23:25:33 | 21.4 | 1.238 | 17.59 | 7.953 | 4.46 | 110.8 | -413 | 3 | 0.26 |
| 4/17/2012 | 23:30:33 | 21.4 | 1.239 | 17.59 | 7.948 | 4.46 | 110.8 | -412 | 3 | 0.26 |
| 4/17/2012 | 23:35:33 | 21.4 | 1.239 | 17.59 | 7.945 | 4.46 | 110.8 | -413 | 3 | 0.26 |
| 4/17/2012 | 23:40:33 | 21.4 | 1.239 | 17.59 | 7.941 | 4.47 | 110.7 | -412 | 3 | 0.26 |
| 4/17/2012 | 23:45:33 | 21.4 | 1.239 | 17.59 | 7.939 | 4.47 | 110.7 | -410 | 3 | 0.26 |
| 4/17/2012 | 23:50:33 | 21.4 | 1.239 | 17.58 | 7.935 | 4.46 | 110.7 | -409 | 3 | 0.26 |
| 4/17/2012 | 23:55:33 | 21.4 | 1.238 | 17.58 | 7.932 | 4.47 | 110.7 | -408 | 3 | 0.26 |
| 4/18/2012 | 0:00:33 | 21.4 | 1.238 | 17.58 | 7.927 | 4.47 | 110.6 | -407 | 3 | 0.26 |
| 4/18/2012 | 0:05:33 | 21.4 | 1.239 | 17.58 | 7.923 | 4.47 | 110.6 | -407 | 3 | 0.26 |
| 4/18/2012 | 0:10:33 | 21.4 | 1.239 | 17.58 | 7.92 | 4.47 | 110.7 | -406 | 3 | 0.26 |
| 4/18/2012 | 0:15:33 | 21.4 | 1.239 | 17.58 | 7.92 | 4.46 | 110.7 | -406 | 3 | 0.26 |
| 4/18/2012 | 0:20:33 | 21.4 | 1.239 | 17.58 | 7.918 | 4.46 | 110.7 | -406 | 3 | 0.26 |
| 4/18/2012 | 0:25:33 | 21.4 | 1.239 | 17.57 | 7.913 | 4.46 | 110.7 | -406 | 3 | 0.26 |
| 4/18/2012 | 0:30:33 | 21.4 | 1.239 | 17.57 | 7.909 | 4.47 | 110.7 | -407 | 3 | 0.26 |
| 4/18/2012 | 0:35:33 | 21.4 | 1.239 | 17.57 | 7.906 | 4.47 | 110.7 | -408 | 3 | 0.26 |
| 4/18/2012 | 0:40:33 | 21.4 | 1.239 | 17.57 | 7.901 | 4.47 | 110.6 | -408 | 3 | 0.26 |
| 4/18/2012 | 0:45:33 | 21.4 | 1.239 | 17.57 | 7.896 | 4.47 | 110.6 | -408 | 3 | 0.26 |
| 4/18/2012 | 0:50:33 | 21.4 | 1.238 | 17.56 | 7.891 | 4.47 | 110.5 | -409 | 3 | 0.26 |
| 4/18/2012 | 0:55:33 | 21.4 | 1.239 | 17.56 | 7.886 | 4.47 | 110.4 | -409 | 3 | 0.26 |
| 4/18/2012 | 1:00:33 | 21.4 | 1.239 | 17.56 | 7.882 | 4.47 | 110.2 | -409 | 3 | 0.26 |
| 4/18/2012 | 1:05:33 | 21.4 | 1.239 | 17.56 | 7.875 | 4.47 | 110.1 | -409 | 3 | 0.26 |
| 4/18/2012 | 1:10:33 | 21.4 | 1.239 | 17.56 | 7.871 | 4.48 | 110 | -410 | 3 | 0.26 |
| 4/18/2012 | 1:15:33 | 21.4 | 1.239 | 17.56 | 7.869 | 4.48 | 109.9 | -411 | 3 | 0.26 |
| 4/18/2012 | 1:20:33 | 21.4 | 1.239 | 17.55 | 7.864 | 4.48 | 110 | -411 | 3 | 0.26 |
| 4/18/2012 | 1:25:33 | 21.4 | 1.239 | 17.55 | 7.859 | 4.48 | 110.1 | -411 | 3 | 0.26 |
| 4/18/2012 | 1:30:33 | 21.4 | 1.239 | 17.55 | 7.854 | 4.47 | 110.1 | -412 | 3 | 0.26 |
| 4/18/2012 | 1:35:33 | 21.4 | 1.239 | 17.55 | 7.851 | 4.47 | 110.1 | -412 | 3 | 0.26 |
| 4/18/2012 | 1:40:33 | 21.4 | 1.239 | 17.54 | 7.845 | 4.48 | 110 | -412 | 3 | 0.26 |
| 4/18/2012 | 1:45:33 | 21.41 | 1.239 | 17.54 | 7.842 | 4.48 | 110 | -411 | 3 | 0.26 |
| 4/18/2012 | 1:50:33 | 21.4 | 1.239 | 17.54 | 7.838 | 4.48 | 109.9 | -411 | 3 | 0.26 |
| 4/18/2012 | 1:55:33 | 21.4 | 1.239 | 17.54 | 7.833 | 4.48 | 109.9 | -411 | 3 | 0.26 |
| 4/18/2012 | 2:00:33 | 21.41 | 1.239 | 17.54 | 7.83 | 4.48 | 109.9 | -411 | 3 | 0.26 |
| 4/18/2012 | 2:05:33 | 21.41 | 1.239 | 17.54 | 7.825 | 4.48 | 109.9 | -410 | 3 | 0.26 |
| 4/18/2012 | 2:10:33 | 21.41 | 1.239 | 17.53 | 7.821 | 4.48 | 109.9 | -410 | 3 | 0.26 |
| 4/18/2012 | 2:15:33 | 21.41 | 1.239 | 17.53 | 7.82 | 4.48 | 109.9 | -409 | 3 | 0.26 |
| 4/18/2012 | 2:20:33 | 21.41 | 1.239 | 17.53 | 7.816 | 4.48 | 109.8 | -409 | 3 | 0.26 |
| 4/18/2012 | 2:25:33 | 21.41 | 1.239 | 17.53 | 7.814 | 4.48 | 109.8 | -409 | 3 | 0.26 |
| 4/18/2012 | 2:30:33 | 21.41 | 1.239 | 17.53 | 7.815 | 4.48 | 109.7 | -409 | 3 | 0.26 |
| 4/18/2012 | 2:35:33 | 21.41 | 1.239 | 17.53 | 7.812 | 4.48 | 109.6 | -409 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 2:40:33 | 21.41 | 1.239 | 17.53 | 7.81 | 4.48 | 109.6 | -408 | 3 | 0.26 |
| 4/18/2012 | 2:45:33 | 21.41 | 1.239 | 17.53 | 7.806 | 4.48 | 109.6 | -408 | 3 | 0.26 |
| 4/18/2012 | 2:50:33 | 21.41 | 1.239 | 17.53 | 7.804 | 4.48 | 109.7 | -407 | 3 | 0.26 |
| 4/18/2012 | 2:55:33 | 21.41 | 1.239 | 17.53 | 7.803 | 4.48 | 109.7 | -406 | 3 | 0.26 |
| 4/18/2012 | 3:00:33 | 21.41 | 1.239 | 17.52 | 7.799 | 4.48 | 109.6 | -406 | 3 | 0.26 |
| 4/18/2012 | 3:05:33 | 21.41 | 1.239 | 17.52 | 7.794 | 4.48 | 109.6 | -406 | 3 | 0.26 |
| 4/18/2012 | 3:10:33 | 21.41 | 1.238 | 17.52 | 7.79 | 4.48 | 109.6 | -406 | 3 | 0.26 |
| 4/18/2012 | 3:15:33 | 21.41 | 1.238 | 17.52 | 7.789 | 4.49 | 109.5 | -406 | 3 | 0.26 |
| 4/18/2012 | 3:20:33 | 21.41 | 1.237 | 17.52 | 7.792 | 4.49 | 109.3 | -405 | 3 | 0.26 |
| 4/18/2012 | 3:25:33 | 21.41 | 1.237 | 17.52 | 7.791 | 4.49 | 109.2 | -403 | 3 | 0.26 |
| 4/18/2012 | 3:30:33 | 21.41 | 1.237 | 17.52 | 7.789 | 4.49 | 109.3 | -402 | 3 | 0.26 |
| 4/18/2012 | 3:35:33 | 21.41 | 1.237 | 17.52 | 7.788 | 4.49 | 109.3 | -402 | 3 | 0.26 |
| 4/18/2012 | 3:40:33 | 21.41 | 1.237 | 17.52 | 7.785 | 4.49 | 109.3 | -403 | 3 | 0.26 |
| 4/18/2012 | 3:45:33 | 21.41 | 1.237 | 17.52 | 7.785 | 4.49 | 109.2 | -404 | 3 | 0.26 |
| 4/18/2012 | 3:50:33 | 21.41 | 1.237 | 17.52 | 7.782 | 4.49 | 109.1 | -404 | 3 | 0.26 |
| 4/18/2012 | 3:55:33 | 21.41 | 1.236 | 17.52 | 7.782 | 4.5 | 108.9 | -405 | 3 | 0.26 |
| 4/18/2012 | 4:00:33 | 21.41 | 1.236 | 17.52 | 7.783 | 4.5 | 108.9 | -405 | 3 | 0.26 |
| 4/18/2012 | 4:05:33 | 21.41 | 1.236 | 17.52 | 7.779 | 4.5 | 108.7 | -405 | 3 | 0.26 |
| 4/18/2012 | 4:10:33 | 21.41 | 1.236 | 17.52 | 7.778 | 4.5 | 108.5 | -403 | 3 | 0.26 |
| 4/18/2012 | 4:15:33 | 21.41 | 1.236 | 17.52 | 7.776 | 4.51 | 108.3 | -401 | 3 | 0.26 |
| 4/18/2012 | 4:20:33 | 21.41 | 1.236 | 17.51 | 7.774 | 4.51 | 108.3 | -400 | 3 | 0.26 |
| 4/18/2012 | 4:25:33 | 21.41 | 1.235 | 17.52 | 7.776 | 4.51 | 108.2 | -400 | 3 | 0.26 |
| 4/18/2012 | 4:30:33 | 21.41 | 1.236 | 17.51 | 7.772 | 4.51 | 108.3 | -399 | 3 | 0.26 |
| 4/18/2012 | 4:35:33 | 21.41 | 1.235 | 17.51 | 7.771 | 4.51 | 108.2 | -399 | 3 | 0.26 |
| 4/18/2012 | 4:40:33 | 21.41 | 1.235 | 17.51 | 7.771 | 4.51 | 108 | -398 | 3 | 0.26 |
| 4/18/2012 | 4:45:33 | 21.41 | 1.235 | 17.51 | 7.771 | 4.51 | 108 | -398 | 3 | 0.26 |
| 4/18/2012 | 4:50:33 | 21.41 | 1.234 | 17.51 | 7.775 | 4.51 | 108 | -398 | 3 | 0.26 |
| 4/18/2012 | 4:55:33 | 21.41 | 1.234 | 17.51 | 7.775 | 4.51 | 108.2 | -400 | 3 | 0.26 |
| 4/18/2012 | 5:00:33 | 21.41 | 1.234 | 17.51 | 7.774 | 4.51 | 108.2 | -401 | 3 | 0.26 |
| 4/18/2012 | 5:05:33 | 21.41 | 1.234 | 17.51 | 7.773 | 4.51 | 108.3 | -401 | 3 | 0.26 |
| 4/18/2012 | 5:10:33 | 21.41 | 1.233 | 17.51 | 7.774 | 4.51 | 108.2 | -401 | 3 | 0.26 |
| 4/18/2012 | 5:15:33 | 21.41 | 1.233 | 17.51 | 7.774 | 4.51 | 107.9 | -401 | 3 | 0.26 |
| 4/18/2012 | 5:20:33 | 21.41 | 1.233 | 17.52 | 7.776 | 4.52 | 107.8 | -401 | 3 | 0.26 |
| 4/18/2012 | 5:25:33 | 21.41 | 1.233 | 17.51 | 7.775 | 4.52 | 107.6 | -401 | 3 | 0.26 |
| 4/18/2012 | 5:30:33 | 21.41 | 1.233 | 17.52 | 7.775 | 4.52 | 107.7 | -401 | 3 | 0.26 |
| 4/18/2012 | 5:35:33 | 21.41 | 1.233 | 17.52 | 7.776 | 4.52 | 107.7 | -401 | 3 | 0.26 |
| 4/18/2012 | 5:40:33 | 21.41 | 1.233 | 17.52 | 7.779 | 4.52 | 107.7 | -401 | 3 | 0.26 |
| 4/18/2012 | 5:45:33 | 21.41 | 1.232 | 17.52 | 7.777 | 4.52 | 107.7 | -401 | 3 | 0.26 |
| 4/18/2012 | 5:50:33 | 21.41 | 1.232 | 17.52 | 7.778 | 4.52 | 107.8 | -401 | 3 | 0.26 |
| 4/18/2012 | 5:55:33 | 21.41 | 1.232 | 17.52 | 7.78 | 4.51 | 107.9 | -401 | 3 | 0.26 |
| 4/18/2012 | 6:00:33 | 21.41 | 1.232 | 17.52 | 7.784 | 4.51 | 107.8 | -402 | 3 | 0.26 |
| 4/18/2012 | 6:05:33 | 21.41 | 1.232 | 17.52 | 7.784 | 4.52 | 107.7 | -402 | 3 | 0.26 |
| 4/18/2012 | 6:10:33 | 21.41 | 1.231 | 17.52 | 7.788 | 4.52 | 107.8 | -403 | 3 | 0.26 |
| 4/18/2012 | 6:15:33 | 21.41 | 1.231 | 17.52 | 7.789 | 4.51 | 107.9 | -403 | 3 | 0.26 |
| 4/18/2012 | 6:20:33 | 21.41 | 1.232 | 17.52 | 7.79 | 4.51 | 108 | -404 | 3 | 0.26 |
| 4/18/2012 | 6:25:33 | 21.41 | 1.231 | 17.52 | 7.791 | 4.51 | 108.4 | -405 | 3 | 0.26 |
| 4/18/2012 | 6:30:33 | 21.41 | 1.232 | 17.52 | 7.796 | 4.51 | 108.3 | -405 | 3 | 0.26 |
| 4/18/2012 | 6:35:33 | 21.41 | 1.231 | 17.52 | 7.796 | 4.51 | 108.4 | -405 | 3 | 0.26 |
| 4/18/2012 | 6:40:33 | 21.41 | 1.231 | 17.52 | 7.799 | 4.5 | 108.5 | -405 | 3 | 0.26 |
| 4/18/2012 | 6:45:33 | 21.41 | 1.231 | 17.53 | 7.8 | 4.5 | 108.8 | -405 | 3 | 0.26 |
| 4/18/2012 | 6:50:33 | 21.41 | 1.23 | 17.53 | 7.801 | 4.5 | 108.5 | -405 | 3 | 0.26 |
| 4/18/2012 | 6:55:33 | 21.41 | 1.23 | 17.53 | 7.805 | 4.5 | 108.7 | -406 | 3 | 0.26 |
| 4/18/2012 | 7:00:33 | 21.41 | 1.23 | 17.53 | 7.807 | 4.5 | 108.6 | -406 | 3 | 0.26 |
| 4/18/2012 | 7:05:33 | 21.41 | 1.23 | 17.53 | 7.813 | 4.5 | 108.8 | -407 | 3 | 0.26 |
| 4/18/2012 | 7:10:33 | 21.41 | 1.231 | 17.53 | 7.814 | 4.5 | 108.9 | -407 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 7:15:33 | 21.41 | 1.231 | 17.53 | 7.819 | 4.49 | 109 | -408 | 3 | 0.26 |
| 4/18/2012 | 7:20:33 | 21.41 | 1.231 | 17.54 | 7.823 | 4.49 | 109.1 | -409 | 3 | 0.26 |
| 4/18/2012 | 7:25:33 | 21.41 | 1.231 | 17.54 | 7.823 | 4.49 | 109.1 | -409 | 3 | 0.26 |
| 4/18/2012 | 7:30:33 | 21.41 | 1.232 | 17.54 | 7.828 | 4.49 | 109.3 | -409 | 3 | 0.26 |
| 4/18/2012 | 7:35:33 | 21.41 | 1.232 | 17.54 | 7.831 | 4.49 | 109.4 | -409 | 3 | 0.26 |
| 4/18/2012 | 7:40:33 | 21.41 | 1.232 | 17.54 | 7.833 | 4.48 | 109.6 | -410 | 3 | 0.26 |
| 4/18/2012 | 7:45:33 | 21.41 | 1.232 | 17.54 | 7.834 | 4.48 | 109.8 | -410 | 3 | 0.26 |
| 4/18/2012 | 7:50:33 | 21.41 | 1.232 | 17.54 | 7.837 | 4.48 | 110 | -411 | 3 | 0.26 |
| 4/18/2012 | 7:55:33 | 21.41 | 1.232 | 17.54 | 7.841 | 4.47 | 110.3 | -411 | 3 | 0.26 |
| 4/18/2012 | 8:00:33 | 21.41 | 1.232 | 17.54 | 7.845 | 4.47 | 110.4 | -412 | 3 | 0.26 |
| 4/18/2012 | 8:05:33 | 21.41 | 1.232 | 17.55 | 7.85 | 4.47 | 110.6 | -412 | 3 | 0.26 |
| 4/18/2012 | 8:10:33 | 21.41 | 1.232 | 17.55 | 7.853 | 4.46 | 110.8 | -413 | 3 | 0.26 |
| 4/18/2012 | 8:15:33 | 21.41 | 1.232 | 17.55 | 7.856 | 4.46 | 110.9 | -413 | 3 | 0.26 |
| 4/18/2012 | 8:20:33 | 21.41 | 1.232 | 17.55 | 7.86 | 4.46 | 111.1 | -413 | 3 | 0.26 |
| 4/18/2012 | 8:25:33 | 21.41 | 1.232 | 17.55 | 7.863 | 4.45 | 111.3 | -413 | 3 | 0.26 |
| 4/18/2012 | 8:30:33 | 21.41 | 1.232 | 17.56 | 7.868 | 4.45 | 111.3 | -413 | 3 | 0.26 |
| 4/18/2012 | 8:35:33 | 21.41 | 1.232 | 17.56 | 7.87 | 4.45 | 111.3 | -414 | 3 | 0.26 |
| 4/18/2012 | 8:40:33 | 21.41 | 1.232 | 17.56 | 7.875 | 4.45 | 111.3 | -414 | 3 | 0.26 |
| 4/18/2012 | 8:45:33 | 21.41 | 1.232 | 17.56 | 7.877 | 4.45 | 111.3 | -414 | 3 | 0.26 |
| 4/18/2012 | 8:50:33 | 21.41 | 1.233 | 17.56 | 7.882 | 4.46 | 111.2 | -414 | 3 | 0.26 |
| 4/18/2012 | 8:55:33 | 21.41 | 1.233 | 17.56 | 7.885 | 4.46 | 111.1 | -414 | 3 | 0.26 |
| 4/18/2012 | 9:00:33 | 21.41 | 1.232 | 17.56 | 7.889 | 4.46 | 111.1 | -415 | 3 | 0.26 |
| 4/18/2012 | 9:05:33 | 21.41 | 1.232 | 17.57 | 7.893 | 4.46 | 111 | -415 | 3 | 0.26 |
| 4/18/2012 | 9:10:33 | 21.41 | 1.232 | 17.57 | 7.896 | 4.46 | 110.9 | -415 | 3 | 0.26 |
| 4/18/2012 | 9:15:33 | 21.41 | 1.232 | 17.57 | 7.896 | 4.46 | 110.8 | -415 | 3 | 0.26 |
| 4/18/2012 | 9:20:33 | 21.41 | 1.232 | 17.57 | 7.9 | 4.46 | 110.7 | -415 | 3 | 0.26 |
| 4/18/2012 | 9:25:33 | 21.41 | 1.233 | 17.57 | 7.904 | 4.47 | 110.6 | -415 | 3 | 0.26 |
| 4/18/2012 | 9:30:33 | 21.41 | 1.233 | 17.57 | 7.905 | 4.47 | 110.5 | -415 | 3 | 0.26 |
| 4/18/2012 | 9:35:33 | 21.41 | 1.233 | 17.57 | 7.909 | 4.47 | 110.4 | -416 | 3 | 0.26 |
| 4/18/2012 | 9:40:33 | 21.41 | 1.233 | 17.57 | 7.913 | 4.47 | 110.5 | -416 | 3 | 0.26 |
| 4/18/2012 | 9:45:33 | 21.41 | 1.233 | 17.58 | 7.917 | 4.47 | 110.5 | -416 | 3 | 0.26 |
| 4/18/2012 | 9:50:33 | 21.41 | 1.233 | 17.58 | 7.918 | 4.47 | 110.5 | -416 | 3 | 0.26 |
| 4/18/2012 | 9:55:33 | 21.42 | 1.233 | 17.58 | 7.921 | 4.47 | 110.5 | -416 | 3 | 0.26 |
| 4/18/2012 | 10:00:33 | 21.41 | 1.233 | 17.58 | 7.924 | 4.47 | 110.7 | -416 | 3 | 0.26 |
| 4/18/2012 | 10:05:33 | 21.41 | 1.234 | 17.58 | 7.926 | 4.46 | 110.9 | -416 | 3 | 0.26 |
| 4/18/2012 | 10:10:33 | 21.42 | 1.234 | 17.58 | 7.926 | 4.47 | 110.6 | -415 | 3 | 0.26 |
| 4/18/2012 | 10:15:33 | 21.41 | 1.234 | 17.58 | 7.928 | 4.47 | 110.5 | -414 | 3 | 0.26 |
| 4/18/2012 | 10:20:33 | 21.42 | 1.234 | 17.58 | 7.927 | 4.47 | 110.4 | -415 | 3 | 0.26 |
| 4/18/2012 | 10:25:33 | 21.42 | 1.234 | 17.58 | 7.924 | 4.47 | 110.3 | -416 | 3 | 0.26 |
| 4/18/2012 | 10:30:33 | 21.41 | 1.235 | 17.58 | 7.921 | 4.47 | 110.3 | -416 | 3 | 0.26 |
| 4/18/2012 | 10:35:33 | 21.41 | 1.235 | 17.58 | 7.922 | 4.47 | 110.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 10:40:33 | 21.42 | 1.235 | 17.58 | 7.923 | 4.47 | 110.2 | -417 | 3 | 0.26 |
| 4/18/2012 | 10:45:33 | 21.41 | 1.236 | 17.58 | 7.923 | 4.47 | 110.2 | -417 | 3 | 0.26 |
| 4/18/2012 | 10:50:33 | 21.41 | 1.236 | 17.58 | 7.923 | 4.47 | 110.2 | -417 | 3 | 0.26 |
| 4/18/2012 | 10:55:33 | 21.42 | 1.236 | 17.58 | 7.92 | 4.47 | 110.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 11:00:33 | 21.42 | 1.236 | 17.58 | 7.916 | 4.47 | 110.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 11:05:33 | 21.42 | 1.237 | 17.58 | 7.916 | 4.47 | 110.3 | -416 | 3 | 0.26 |
| 4/18/2012 | 11:10:33 | 21.41 | 1.237 | 17.57 | 7.912 | 4.47 | 110.4 | -416 | 3 | 0.26 |
| 4/18/2012 | 11:15:33 | 21.42 | 1.237 | 17.57 | 7.912 | 4.47 | 110.7 | -416 | 3 | 0.26 |
| 4/18/2012 | 11:20:33 | 21.42 | 1.237 | 17.57 | 7.909 | 4.46 | 110.7 | -416 | 3 | 0.26 |
| 4/18/2012 | 11:25:33 | 21.42 | 1.237 | 17.57 | 7.905 | 4.46 | 110.8 | -416 | 3 | 0.26 |
| 4/18/2012 | 11:30:33 | 21.42 | 1.237 | 17.57 | 7.903 | 4.46 | 111 | -416 | 3 | 0.26 |
| 4/18/2012 | 11:35:33 | 21.42 | 1.237 | 17.57 | 7.9 | 4.46 | 111.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 11:40:33 | 21.42 | 1.237 | 17.57 | 7.895 | 4.45 | 111.3 | -416 | 3 | 0.26 |
| 4/18/2012 | 11:45:33 | 21.42 | 1.237 | 17.57 | 7.893 | 4.45 | 111.5 | -416 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 11:50:33 | 21.42 | 1.238 | 17.56 | 7.891 | 4.45 | 111.6 | -416 | 3 | 0.26 |
| 4/18/2012 | 11:55:33 | 21.42 | 1.238 | 17.56 | 7.887 | 4.45 | 111.7 | -415 | 3 | 0.26 |
| 4/18/2012 | 12:00:33 | 21.42 | 1.238 | 17.56 | 7.885 | 4.44 | 111.8 | -416 | 3 | 0.26 |
| 4/18/2012 | 12:05:33 | 21.42 | 1.238 | 17.56 | 7.882 | 4.44 | 111.9 | -416 | 3 | 0.26 |
| 4/18/2012 | 12:10:33 | 21.42 | 1.238 | 17.56 | 7.878 | 4.44 | 111.9 | -416 | 3 | 0.26 |
| 4/18/2012 | 12:15:33 | 21.42 | 1.238 | 17.56 | 7.874 | 4.44 | 112 | -416 | 3 | 0.26 |
| 4/18/2012 | 12:20:33 | 21.42 | 1.238 | 17.55 | 7.868 | 4.44 | 112.1 | -416 | 3 | 0.26 |
| 4/18/2012 | 12:25:33 | 21.42 | 1.238 | 17.55 | 7.863 | 4.44 | 112.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 12:30:33 | 21.42 | 1.238 | 17.55 | 7.858 | 4.44 | 112.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 12:35:33 | 21.42 | 1.239 | 17.55 | 7.856 | 4.44 | 112.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 12:40:33 | 21.42 | 1.239 | 17.55 | 7.852 | 4.44 | 112.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 12:45:33 | 21.42 | 1.239 | 17.55 | 7.848 | 4.44 | 112.1 | -416 | 3 | 0.26 |
| 4/18/2012 | 12:50:33 | 21.42 | 1.239 | 17.54 | 7.841 | 4.44 | 112.1 | -416 | 3 | 0.26 |
| 4/18/2012 | 12:55:33 | 21.42 | 1.238 | 17.54 | 7.838 | 4.44 | 112.1 | -416 | 3 | 0.26 |
| 4/18/2012 | 13:00:33 | 21.42 | 1.239 | 17.54 | 7.833 | 4.44 | 112 | -417 | 3 | 0.26 |
| 4/18/2012 | 13:05:33 | 21.42 | 1.239 | 17.54 | 7.829 | 4.44 | 112.1 | -417 | 3 | 0.26 |
| 4/18/2012 | 13:10:33 | 21.42 | 1.239 | 17.54 | 7.823 | 4.44 | 112.1 | -417 | 3 | 0.26 |
| 4/18/2012 | 13:15:33 | 21.42 | 1.239 | 17.53 | 7.821 | 4.44 | 112.1 | -417 | 3 | 0.26 |
| 4/18/2012 | 13:20:33 | 21.42 | 1.239 | 17.53 | 7.816 | 4.44 | 112 | -417 | 3 | 0.26 |
| 4/18/2012 | 13:25:33 | 21.42 | 1.234 | 17.53 | 7.814 | 4.44 | 111.9 | -417 | 3 | 0.26 |
| 4/18/2012 | 13:30:33 | 21.42 | 1.239 | 17.53 | 7.811 | 4.45 | 111.7 | -418 | 3 | 0.26 |
| 4/18/2012 | 13:35:33 | 21.43 | 1.239 | 17.53 | 7.808 | 4.45 | 111.5 | -418 | 3 | 0.26 |
| 4/18/2012 | 13:40:33 | 21.43 | 1.239 | 17.53 | 7.802 | 4.45 | 111.4 | -416 | 3 | 0.26 |
| 4/18/2012 | 13:45:33 | 21.43 | 1.239 | 17.53 | 7.803 | 4.45 | 111.3 | -414 | 3 | 0.26 |
| 4/18/2012 | 13:50:33 | 21.43 | 1.239 | 17.53 | 7.8 | 4.46 | 111.1 | -413 | 3 | 0.26 |
| 4/18/2012 | 13:55:33 | 21.42 | 1.239 | 17.52 | 7.791 | 4.46 | 111.1 | -413 | 3 | 0.26 |
| 4/18/2012 | 14:00:33 | 21.43 | 1.239 | 17.52 | 7.789 | 4.46 | 111 | -413 | 3 | 0.26 |
| 4/18/2012 | 14:05:33 | 21.43 | 1.239 | 17.52 | 7.787 | 4.46 | 111 | -413 | 3 | 0.26 |
| 4/18/2012 | 14:10:33 | 21.43 | 1.239 | 17.52 | 7.785 | 4.46 | 110.9 | -413 | 3 | 0.26 |
| 4/18/2012 | 14:15:33 | 21.42 | 1.239 | 17.52 | 7.784 | 4.46 | 110.8 | -413 | 3 | 0.26 |
| 4/18/2012 | 14:20:33 | 21.42 | 1.239 | 17.52 | 7.782 | 4.46 | 110.8 | -414 | 3 | 0.26 |
| 4/18/2012 | 14:25:33 | 21.43 | 1.239 | 17.52 | 7.778 | 4.46 | 110.8 | -413 | 3 | 0.26 |
| 4/18/2012 | 14:30:33 | 21.43 | 1.238 | 17.52 | 7.776 | 4.46 | 110.8 | -410 | 3 | 0.26 |
| 4/18/2012 | 14:35:33 | 21.43 | 1.238 | 17.51 | 7.771 | 4.47 | 110.7 | -409 | 3 | 0.26 |
| 4/18/2012 | 14:40:33 | 21.43 | 1.238 | 17.51 | 7.769 | 4.47 | 110.6 | -408 | 3 | 0.26 |
| 4/18/2012 | 14:45:33 | 21.43 | 1.238 | 17.51 | 7.767 | 4.47 | 110.6 | -407 | 3 | 0.26 |
| 4/18/2012 | 14:50:33 | 21.43 | 1.238 | 17.51 | 7.762 | 4.47 | 110.5 | -406 | 3 | 0.26 |
| 4/18/2012 | 14:55:33 | 21.43 | 1.237 | 17.51 | 7.761 | 4.47 | 110.4 | -405 | 3 | 0.26 |
| 4/18/2012 | 15:00:33 | 21.43 | 1.237 | 17.51 | 7.759 | 4.47 | 110.3 | -405 | 3 | 0.26 |
| 4/18/2012 | 15:05:33 | 21.43 | 1.236 | 17.51 | 7.757 | 4.47 | 110.3 | -403 | 3 | 0.26 |
| 4/18/2012 | 15:10:33 | 21.43 | 1.235 | 17.51 | 7.754 | 4.47 | 110.2 | -402 | 3 | 0.26 |
| 4/18/2012 | 15:15:33 | 21.43 | 1.235 | 17.5 | 7.751 | 4.48 | 110 | -400 | 3 | 0.26 |
| 4/18/2012 | 15:20:33 | 21.43 | 1.234 | 17.5 | 7.749 | 4.48 | 109.9 | -399 | 3 | 0.26 |
| 4/18/2012 | 15:25:33 | 21.43 | 1.234 | 17.5 | 7.747 | 4.48 | 109.8 | -397 | 3 | 0.26 |
| 4/18/2012 | 15:30:33 | 21.43 | 1.233 | 17.5 | 7.738 | 4.48 | 109.8 | -395 | 2.9 | 0.26 |
| 4/18/2012 | 15:35:33 | 21.43 | 1.233 | 17.5 | 7.741 | 4.48 | 109.7 | -395 | 3 | 0.26 |
| 4/18/2012 | 15:40:33 | 21.43 | 1.233 | 17.5 | 7.741 | 4.48 | 109.7 | -396 | 2.9 | 0.26 |
| 4/18/2012 | 15:45:33 | 21.43 | 1.233 | 17.5 | 7.737 | 4.48 | 109.6 | -398 | 3 | 0.26 |
| 4/18/2012 | 15:50:33 | 21.43 | 1.232 | 17.5 | 7.736 | 4.48 | 109.6 | -399 | 3 | 0.26 |
| 4/18/2012 | 15:55:33 | 21.43 | 1.231 | 17.5 | 7.735 | 4.48 | 109.6 | -400 | 3 | 0.26 |
| 4/18/2012 | 16:00:33 | 21.43 | 1.231 | 17.5 | 7.735 | 4.48 | 109.6 | -401 | 3 | 0.26 |
| 4/18/2012 | 16:05:33 | 21.43 | 1.23 | 17.5 | 7.733 | 4.49 | 109.6 | -402 | 3 | 0.26 |
| 4/18/2012 | 16:10:33 | 21.43 | 1.23 | 17.5 | 7.731 | 4.49 | 109.6 | -401 | 3 | 0.26 |
| 4/18/2012 | 16:15:33 | 21.43 | 1.229 | 17.49 | 7.729 | 4.49 | 109.5 | -402 | 3 | 0.26 |
| 4/18/2012 | 16:20:33 | 21.43 | 1.229 | 17.49 | 7.727 | 4.49 | 109.4 | -403 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 16:25:33 | 21.43 | 1.228 | 17.49 | 7.728 | 4.48 | 109.9 | -407 | 3 | 0.26 |
| 4/18/2012 | 16:30:33 | 21.43 | 1.227 | 17.49 | 7.728 | 4.48 | 109.7 | -409 | 3 | 0.26 |
| 4/18/2012 | 16:35:33 | 21.43 | 1.226 | 17.49 | 7.726 | 4.48 | 109.6 | -410 | 3 | 0.26 |
| 4/18/2012 | 16:40:33 | 21.45 | 1.206 | 17.49 | 7.724 | 4.47 | 110.3 | -411 | 2.9 | 0.26 |
| 4/18/2012 | 16:45:33 | 21.45 | 1.196 | 17.49 | 7.723 | 4.5 | 108.7 | -416 | 2.9 | 0.26 |
| 4/18/2012 | 16:50:33 | 21.45 | 1.194 | 17.49 | 7.726 | 4.51 | 108.1 | -417 | 3 | 0.26 |
| 4/18/2012 | 16:55:33 | 21.45 | 1.192 | 17.49 | 7.724 | 4.52 | 107.7 | -418 | 2.9 | 0.26 |
| 4/18/2012 | 17:00:33 | 21.45 | 1.191 | 17.49 | 7.725 | 4.52 | 107.6 | -417 | 3 | 0.26 |
| 4/18/2012 | 17:05:33 | 21.44 | 1.189 | 17.49 | 7.726 | 4.52 | 107.4 | -418 | 2.9 | 0.26 |
| 4/18/2012 | 17:10:33 | 21.44 | 1.187 | 17.49 | 7.723 | 4.53 | 107.1 | -419 | 2.9 | 0.26 |
| 4/18/2012 | 17:15:33 | 21.44 | 1.185 | 17.49 | 7.724 | 4.54 | 106.6 | -420 | 3 | 0.26 |
| 4/18/2012 | 17:20:33 | 21.44 | 1.181 | 17.49 | 7.725 | 4.55 | 106.1 | -421 | 3 | 0.26 |
| 4/18/2012 | 17:25:33 | 21.44 | 1.18 | 17.49 | 7.725 | 4.56 | 105.5 | -422 | 3 | 0.26 |
| 4/18/2012 | 17:30:33 | 21.44 | 1.18 | 17.49 | 7.726 | 4.56 | 105.3 | -422 | 3 | 0.26 |
| 4/18/2012 | 17:35:33 | 21.44 | 1.18 | 17.49 | 7.725 | 4.56 | 105.3 | -423 | 3 | 0.26 |
| 4/18/2012 | 17:40:33 | 21.44 | 1.179 | 17.49 | 7.727 | 4.57 | 105 | -423 | 3 | 0.26 |
| 4/18/2012 | 17:45:33 | 21.44 | 1.179 | 17.49 | 7.725 | 4.57 | 104.9 | -424 | 2.9 | 0.26 |
| 4/18/2012 | 17:50:33 | 21.44 | 1.179 | 17.49 | 7.728 | 4.57 | 104.6 | -424 | 3 | 0.26 |
| 4/18/2012 | 17:55:33 | 21.44 | 1.178 | 17.5 | 7.73 | 4.58 | 104.2 | -425 | 3 | 0.26 |
| 4/18/2012 | 18:00:33 | 21.44 | 1.178 | 17.5 | 7.73 | 4.58 | 104.1 | -425 | 3 | 0.26 |
| 4/18/2012 | 18:05:33 | 21.43 | 1.178 | 17.5 | 7.73 | 4.58 | 104 | -425 | 2.9 | 0.26 |
| 4/18/2012 | 18:10:33 | 21.43 | 1.179 | 17.5 | 7.733 | 4.59 | 103.9 | -425 | 2.9 | 0.26 |
| 4/18/2012 | 18:15:33 | 21.43 | 1.178 | 17.5 | 7.733 | 4.59 | 103.8 | -425 | 3 | 0.26 |
| 4/18/2012 | 18:20:33 | 21.43 | 1.178 | 17.5 | 7.736 | 4.59 | 103.8 | -424 | 2.9 | 0.26 |
| 4/18/2012 | 18:25:33 | 21.43 | 1.178 | 17.5 | 7.74 | 4.59 | 103.8 | -424 | 3 | 0.26 |
| 4/18/2012 | 18:30:33 | 21.43 | 1.178 | 17.5 | 7.741 | 4.59 | 103.8 | -424 | 2.9 | 0.26 |
| 4/18/2012 | 18:35:33 | 21.43 | 1.178 | 17.5 | 7.743 | 4.59 | 103.8 | -423 | 3 | 0.26 |
| 4/18/2012 | 18:40:33 | 21.43 | 1.178 | 17.5 | 7.744 | 4.59 | 103.9 | -423 | 2.9 | 0.26 |
| 4/18/2012 | 18:45:33 | 21.43 | 1.179 | 17.5 | 7.748 | 4.59 | 103.9 | -422 | 3 | 0.26 |
| 4/18/2012 | 18:50:33 | 21.43 | 1.179 | 17.5 | 7.752 | 4.58 | 103.9 | -421 | 3 | 0.26 |
| 4/18/2012 | 18:55:33 | 21.43 | 1.179 | 17.51 | 7.755 | 4.58 | 104 | -420 | 2.9 | 0.26 |
| 4/18/2012 | 19:00:33 | 21.43 | 1.179 | 17.51 | 7.757 | 4.58 | 104 | -419 | 3 | 0.26 |
| 4/18/2012 | 19:05:33 | 21.43 | 1.18 | 17.51 | 7.759 | 4.58 | 104.1 | -418 | 2.9 | 0.26 |
| 4/18/2012 | 19:10:33 | 21.43 | 1.18 | 17.51 | 7.765 | 4.58 | 104.1 | -417 | 3 | 0.26 |
| 4/18/2012 | 19:15:33 | 21.43 | 1.181 | 17.51 | 7.769 | 4.58 | 104.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 19:20:33 | 21.43 | 1.182 | 17.51 | 7.771 | 4.58 | 104.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 19:25:33 | 21.43 | 1.182 | 17.52 | 7.776 | 4.58 | 104.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 19:30:33 | 21.43 | 1.183 | 17.52 | 7.778 | 4.58 | 104.2 | -416 | 3 | 0.26 |
| 4/18/2012 | 19:35:33 | 21.43 | 1.184 | 17.52 | 7.783 | 4.58 | 104.3 | -415 | 3 | 0.26 |
| 4/18/2012 | 19:40:33 | 21.43 | 1.185 | 17.52 | 7.785 | 4.58 | 104.4 | -415 | 3 | 0.26 |
| 4/18/2012 | 19:45:33 | 21.43 | 1.185 | 17.52 | 7.789 | 4.58 | 104.4 | -415 | 3 | 0.26 |
| 4/18/2012 | 19:50:33 | 21.43 | 1.186 | 17.52 | 7.792 | 4.58 | 104.4 | -415 | 3 | 0.26 |
| 4/18/2012 | 19:55:33 | 21.43 | 1.186 | 17.52 | 7.797 | 4.58 | 104.4 | -414 | 3 | 0.26 |
| 4/18/2012 | 20:00:33 | 21.43 | 1.187 | 17.53 | 7.804 | 4.58 | 104.4 | -414 | 3 | 0.26 |
| 4/18/2012 | 20:05:33 | 21.43 | 1.187 | 17.53 | 7.807 | 4.57 | 104.5 | -414 | 3 | 0.26 |
| 4/18/2012 | 20:10:33 | 21.43 | 1.188 | 17.53 | 7.811 | 4.57 | 104.6 | -414 | 3 | 0.26 |
| 4/18/2012 | 20:15:33 | 21.43 | 1.188 | 17.53 | 7.815 | 4.57 | 104.7 | -414 | 3 | 0.26 |
| 4/18/2012 | 20:20:33 | 21.43 | 1.188 | 17.53 | 7.82 | 4.57 | 104.8 | -414 | 3 | 0.26 |
| 4/18/2012 | 20:25:33 | 21.43 | 1.189 | 17.53 | 7.821 | 4.57 | 104.9 | -414 | 3 | 0.26 |
| 4/18/2012 | 20:30:33 | 21.43 | 1.189 | 17.54 | 7.824 | 4.57 | 104.9 | -414 | 3 | 0.26 |
| 4/18/2012 | 20:35:33 | 21.43 | 1.19 | 17.54 | 7.83 | 4.55 | 105.8 | -415 | 3 | 0.26 |
| 4/18/2012 | 20:40:33 | 21.43 | 1.19 | 17.54 | 7.835 | 4.55 | 105.8 | -416 | 3 | 0.26 |
| 4/18/2012 | 20:45:33 | 21.43 | 1.191 | 17.54 | 7.84 | 4.55 | 105.8 | -416 | 3 | 0.26 |
| 4/18/2012 | 20:50:33 | 21.43 | 1.191 | 17.54 | 7.842 | 4.55 | 105.8 | -416 | 3 | 0.26 |
| 4/18/2012 | 20:55:33 | 21.43 | 1.193 | 17.55 | 7.847 | 4.55 | 105.8 | -416 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/18/2012 | 21:00:33 | 21.43 | 1.192 | 17.55 | 7.849 | 4.55 | 106.1 | -416 | 3 | 0.26 |
| 4/18/2012 | 21:05:33 | 21.43 | 1.193 | 17.55 | 7.856 | 4.54 | 106.6 | -417 | 3 | 0.26 |
| 4/18/2012 | 21:10:33 | 21.43 | 1.193 | 17.55 | 7.86 | 4.53 | 106.8 | -417 | 3 | 0.26 |
| 4/18/2012 | 21:15:33 | 21.43 | 1.194 | 17.55 | 7.865 | 4.53 | 107 | -417 | 3 | 0.26 |
| 4/18/2012 | 21:20:33 | 21.43 | 1.195 | 17.56 | 7.873 | 4.53 | 107.1 | -417 | 3 | 0.26 |
| 4/18/2012 | 21:25:33 | 21.43 | 1.197 | 17.56 | 7.877 | 4.53 | 107.1 | -416 | 3 | 0.26 |
| 4/18/2012 | 21:30:33 | 21.43 | 1.198 | 17.56 | 7.883 | 4.53 | 107.1 | -416 | 3 | 0.26 |
| 4/18/2012 | 21:35:33 | 21.43 | 1.198 | 17.56 | 7.887 | 4.53 | 107.1 | -415 | 3 | 0.26 |
| 4/18/2012 | 21:40:33 | 21.43 | 1.2 | 17.57 | 7.893 | 4.53 | 107.1 | -415 | 3 | 0.26 |
| 4/18/2012 | 21:45:33 | 21.43 | 1.2 | 17.57 | 7.899 | 4.53 | 107.1 | -415 | 3 | 0.26 |
| 4/18/2012 | 21:50:33 | 21.43 | 1.201 | 17.57 | 7.901 | 4.53 | 107.2 | -415 | 3 | 0.26 |
| 4/18/2012 | 21:55:33 | 21.43 | 1.202 | 17.57 | 7.907 | 4.53 | 107.2 | -414 | 3 | 0.26 |
| 4/18/2012 | 22:00:33 | 21.43 | 1.203 | 17.57 | 7.911 | 4.53 | 107.2 | -414 | 3 | 0.26 |
| 4/18/2012 | 22:05:33 | 21.43 | 1.203 | 17.58 | 7.915 | 4.53 | 107.3 | -414 | 3 | 0.26 |
| 4/18/2012 | 22:10:33 | 21.43 | 1.204 | 17.58 | 7.921 | 4.52 | 107.3 | -414 | 3 | 0.26 |
| 4/18/2012 | 22:15:33 | 21.43 | 1.205 | 17.58 | 7.925 | 4.52 | 107.4 | -414 | 3 | 0.26 |
| 4/18/2012 | 22:20:33 | 21.43 | 1.205 | 17.58 | 7.923 | 4.52 | 107.4 | -413 | 3 | 0.26 |
| 4/18/2012 | 22:25:33 | 21.43 | 1.206 | 17.58 | 7.924 | 4.52 | 107.5 | -413 | 3 | 0.26 |
| 4/18/2012 | 22:30:33 | 21.43 | 1.206 | 17.58 | 7.93 | 4.52 | 107.5 | -413 | 3 | 0.26 |
| 4/18/2012 | 22:35:33 | 21.43 | 1.207 | 17.58 | 7.931 | 4.52 | 107.7 | -413 | 3 | 0.26 |
| 4/18/2012 | 22:40:33 | 21.43 | 1.208 | 17.58 | 7.931 | 4.52 | 107.7 | -413 | 3 | 0.26 |
| 4/18/2012 | 22:45:33 | 21.43 | 1.208 | 17.58 | 7.932 | 4.52 | 107.8 | -413 | 3 | 0.26 |
| 4/18/2012 | 22:50:33 | 21.43 | 1.209 | 17.58 | 7.93 | 4.51 | 107.9 | -413 | 3 | 0.26 |
| 4/18/2012 | 22:55:33 | 21.43 | 1.21 | 17.58 | 7.933 | 4.51 | 108 | -413 | 3 | 0.26 |
| 4/18/2012 | 23:00:33 | 21.43 | 1.21 | 17.58 | 7.931 | 4.51 | 108 | -412 | 3 | 0.26 |
| 4/18/2012 | 23:05:33 | 21.43 | 1.211 | 17.58 | 7.931 | 4.51 | 108.1 | -412 | 3 | 0.26 |
| 4/18/2012 | 23:10:33 | 21.43 | 1.212 | 17.58 | 7.928 | 4.51 | 108.2 | -412 | 3 | 0.26 |
| 4/18/2012 | 23:15:33 | 21.43 | 1.212 | 17.58 | 7.926 | 4.51 | 108.2 | -412 | 3 | 0.26 |
| 4/18/2012 | 23:20:33 | 21.43 | 1.212 | 17.58 | 7.923 | 4.51 | 108.3 | -412 | 3 | 0.26 |
| 4/18/2012 | 23:25:33 | 21.43 | 1.213 | 17.58 | 7.922 | 4.51 | 108.3 | -411 | 3 | 0.26 |
| 4/18/2012 | 23:30:33 | 21.43 | 1.213 | 17.58 | 7.919 | 4.5 | 108.5 | -411 | 3 | 0.26 |
| 4/18/2012 | 23:35:33 | 21.43 | 1.213 | 17.58 | 7.917 | 4.5 | 108.5 | -411 | 3 | 0.26 |
| 4/18/2012 | 23:40:33 | 21.44 | 1.214 | 17.58 | 7.915 | 4.5 | 108.6 | -411 | 3 | 0.26 |
| 4/18/2012 | 23:45:33 | 21.43 | 1.214 | 17.57 | 7.912 | 4.5 | 108.6 | -411 | 3 | 0.26 |
| 4/18/2012 | 23:50:33 | 21.44 | 1.214 | 17.57 | 7.909 | 4.5 | 108.7 | -411 | 3 | 0.26 |
| 4/18/2012 | 23:55:33 | 21.44 | 1.214 | 17.57 | 7.904 | 4.5 | 108.8 | -411 | 3 | 0.26 |
| 4/19/2012 | 0:00:33 | 21.44 | 1.214 | 17.57 | 7.902 | 4.5 | 108.8 | -411 | 3 | 0.26 |
| 4/19/2012 | 0:05:33 | 21.44 | 1.214 | 17.57 | 7.898 | 4.5 | 108.9 | -411 | 3 | 0.26 |
| 4/19/2012 | 0:10:33 | 21.44 | 1.214 | 17.57 | 7.895 | 4.5 | 108.9 | -410 | 3 | 0.26 |
| 4/19/2012 | 0:15:33 | 21.44 | 1.214 | 17.56 | 7.89 | 4.5 | 108.9 | -410 | 3 | 0.26 |
| 4/19/2012 | 0:20:33 | 21.44 | 1.215 | 17.56 | 7.885 | 4.5 | 108.9 | -410 | 3 | 0.26 |
| 4/19/2012 | 0:25:33 | 21.44 | 1.215 | 17.56 | 7.883 | 4.49 | 109 | -409 | 3 | 0.26 |
| 4/19/2012 | 0:30:33 | 21.44 | 1.215 | 17.56 | 7.879 | 4.49 | 109.1 | -409 | 3 | 0.26 |
| 4/19/2012 | 0:35:33 | 21.44 | 1.215 | 17.56 | 7.875 | 4.49 | 109.1 | -409 | 3 | 0.26 |
| 4/19/2012 | 0:40:33 | 21.44 | 1.215 | 17.56 | 7.868 | 4.49 | 109.1 | -408 | 3 | 0.26 |
| 4/19/2012 | 0:45:33 | 21.44 | 1.215 | 17.55 | 7.865 | 4.49 | 109.1 | -408 | 3 | 0.26 |
| 4/19/2012 | 0:50:33 | 21.44 | 1.216 | 17.55 | 7.862 | 4.49 | 109.3 | -408 | 3 | 0.26 |
| 4/19/2012 | 0:55:33 | 21.44 | 1.216 | 17.55 | 7.854 | 4.49 | 109.4 | -408 | 3 | 0.26 |
| 4/19/2012 | 1:00:33 | 21.44 | 1.216 | 17.55 | 7.851 | 4.49 | 109.3 | -408 | 3 | 0.26 |
| 4/19/2012 | 1:05:33 | 21.44 | 1.216 | 17.55 | 7.847 | 4.49 | 109.4 | -408 | 3 | 0.26 |
| 4/19/2012 | 1:10:33 | 21.44 | 1.216 | 17.54 | 7.842 | 4.49 | 109.4 | -407 | 3 | 0.26 |
| 4/19/2012 | 1:15:33 | 21.44 | 1.216 | 17.54 | 7.837 | 4.49 | 109.5 | -408 | 3 | 0.26 |
| 4/19/2012 | 1:20:33 | 21.44 | 1.216 | 17.54 | 7.831 | 4.49 | 109.5 | -408 | 3 | 0.26 |
| 4/19/2012 | 1:25:33 | 21.44 | 1.216 | 17.54 | 7.824 | 4.48 | 109.6 | -408 | 3 | 0.26 |
| 4/19/2012 | 1:30:33 | 21.44 | 1.217 | 17.54 | 7.822 | 4.48 | 109.6 | -408 | 3 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/19/2012 | 1:35:33 | 21.44 | 1.217 | 17.53 | 7.818 | 4.48 | 109.7 | -408 | 3 | 0.26 |
| 4/19/2012 | 1:40:33 | 21.44 | 1.217 | 17.53 | 7.815 | 4.48 | 109.7 | -408 | 3 | 0.26 |
| 4/19/2012 | 1:45:33 | 21.44 | 1.218 | 17.53 | 7.809 | 4.49 | 109.5 | -407 | 3 | 0.26 |
| 4/19/2012 | 1:50:33 | 21.44 | 1.218 | 17.53 | 7.807 | 4.49 | 109.1 | -410 | 3 | 0.26 |
| 4/19/2012 | 1:55:33 | 21.44 | 1.218 | 17.53 | 7.803 | 4.49 | 109.1 | -411 | 3 | 0.26 |
| 4/19/2012 | 2:00:33 | 21.44 | 1.218 | 17.53 | 7.799 | 4.49 | 109.1 | -411 | 3 | 0.26 |
| 4/19/2012 | 2:05:33 | 21.44 | 1.218 | 17.52 | 7.795 | 4.49 | 109.1 | -410 | 3 | 0.26 |
| 4/19/2012 | 2:10:33 | 21.44 | 1.218 | 17.52 | 7.791 | 4.49 | 109.2 | -409 | 3 | 0.26 |
| 4/19/2012 | 2:15:33 | 21.44 | 1.218 | 17.52 | 7.787 | 4.49 | 109.2 | -408 | 3 | 0.26 |
| 4/19/2012 | 2:20:33 | 21.44 | 1.218 | 17.52 | 7.784 | 4.49 | 109.2 | -407 | 3 | 0.26 |
| 4/19/2012 | 2:25:33 | 21.44 | 1.218 | 17.52 | 7.781 | 4.49 | 109.2 | -407 | 3 | 0.26 |
| 4/19/2012 | 2:30:33 | 21.44 | 1.218 | 17.52 | 7.776 | 4.49 | 109.2 | -406 | 3 | 0.26 |
| 4/19/2012 | 2:35:33 | 21.44 | 1.218 | 17.51 | 7.773 | 4.49 | 109.3 | -405 | 3 | 0.26 |
| 4/19/2012 | 2:40:33 | 21.44 | 1.218 | 17.51 | 7.772 | 4.49 | 109.3 | -405 | 2.9 | 0.26 |
| 4/19/2012 | 2:45:33 | 21.45 | 1.218 | 17.51 | 7.769 | 4.49 | 109.4 | -407 | 2.9 | 0.26 |
| 4/19/2012 | 2:50:33 | 21.45 | 1.218 | 17.51 | 7.766 | 4.49 | 109.4 | -408 | 3 | 0.26 |
| 4/19/2012 | 2:55:33 | 21.44 | 1.218 | 17.51 | 7.763 | 4.49 | 109.4 | -407 | 3 | 0.26 |
| 4/19/2012 | 3:00:33 | 21.45 | 1.218 | 17.51 | 7.76 | 4.49 | 109.3 | -407 | 3 | 0.26 |
| 4/19/2012 | 3:05:33 | 21.44 | 1.218 | 17.51 | 7.757 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 3:10:33 | 21.45 | 1.218 | 17.51 | 7.755 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 3:15:33 | 21.45 | 1.218 | 17.51 | 7.753 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 3:20:33 | 21.45 | 1.218 | 17.51 | 7.753 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 3:25:33 | 21.45 | 1.218 | 17.51 | 7.753 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 3:30:33 | 21.45 | 1.218 | 17.5 | 7.75 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 3:35:33 | 21.45 | 1.218 | 17.5 | 7.745 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 3:40:33 | 21.45 | 1.218 | 17.5 | 7.741 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 3:45:33 | 21.45 | 1.219 | 17.5 | 7.739 | 4.49 | 109.1 | -407 | 2.9 | 0.26 |
| 4/19/2012 | 3:50:33 | 21.45 | 1.219 | 17.5 | 7.738 | 4.49 | 109.1 | -407 | 2.9 | 0.26 |
| 4/19/2012 | 3:55:33 | 21.45 | 1.219 | 17.5 | 7.737 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 4:00:33 | 21.45 | 1.219 | 17.5 | 7.736 | 4.49 | 109.2 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 4:05:33 | 21.45 | 1.219 | 17.5 | 7.732 | 4.49 | 109.2 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 4:10:33 | 21.45 | 1.219 | 17.49 | 7.729 | 4.49 | 109.2 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 4:15:33 | 21.45 | 1.219 | 17.49 | 7.729 | 4.49 | 109.3 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 4:20:33 | 21.45 | 1.219 | 17.49 | 7.728 | 4.49 | 109.3 | -406 | 3 | 0.26 |
| 4/19/2012 | 4:25:33 | 21.45 | 1.219 | 17.49 | 7.727 | 4.49 | 109.3 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 4:30:33 | 21.45 | 1.219 | 17.49 | 7.726 | 4.49 | 109.3 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 4:35:33 | 21.45 | 1.219 | 17.49 | 7.723 | 4.49 | 109.2 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 4:40:33 | 21.45 | 1.219 | 17.49 | 7.723 | 4.49 | 109.2 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 4:45:33 | 21.45 | 1.219 | 17.49 | 7.721 | 4.49 | 109.3 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 4:50:33 | 21.45 | 1.22 | 17.49 | 7.722 | 4.49 | 109.2 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 4:55:33 | 21.45 | 1.219 | 17.49 | 7.722 | 4.49 | 109.2 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 5:00:33 | 21.45 | 1.219 | 17.49 | 7.719 | 4.49 | 109.2 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 5:05:33 | 21.45 | 1.22 | 17.49 | 7.719 | 4.49 | 109.2 | -405 | 2.9 | 0.26 |
| 4/19/2012 | 5:10:33 | 21.45 | 1.219 | 17.49 | 7.718 | 4.49 | 109.2 | -405 | 2.9 | 0.26 |
| 4/19/2012 | 5:15:33 | 21.45 | 1.22 | 17.49 | 7.718 | 4.49 | 109.2 | -405 | 2.9 | 0.26 |
| 4/19/2012 | 5:20:33 | 21.45 | 1.22 | 17.49 | 7.718 | 4.49 | 109.2 | -405 | 2.9 | 0.26 |
| 4/19/2012 | 5:25:33 | 21.45 | 1.22 | 17.49 | 7.716 | 4.49 | 109.2 | -405 | 2.9 | 0.26 |
| 4/19/2012 | 5:30:33 | 21.45 | 1.22 | 17.49 | 7.715 | 4.49 | 109.2 | -405 | 2.9 | 0.26 |
| 4/19/2012 | 5:35:33 | 21.45 | 1.22 | 17.49 | 7.717 | 4.49 | 109.1 | -405 | 2.9 | 0.26 |
| 4/19/2012 | 5:40:33 | 21.45 | 1.22 | 17.49 | 7.716 | 4.49 | 109.3 | -407 | 2.9 | 0.26 |
| 4/19/2012 | 5:45:33 | 21.45 | 1.22 | 17.49 | 7.713 | 4.49 | 109.2 | -408 | 2.9 | 0.26 |
| 4/19/2012 | 5:50:33 | 21.45 | 1.22 | 17.49 | 7.715 | 4.49 | 109.3 | -408 | 2.9 | 0.26 |
| 4/19/2012 | 5:55:33 | 21.45 | 1.22 | 17.49 | 7.715 | 4.49 | 109.3 | -408 | 2.9 | 0.26 |
| 4/19/2012 | 6:00:33 | 21.45 | 1.22 | 17.49 | 7.716 | 4.49 | 109.2 | -408 | 2.9 | 0.26 |
| 4/19/2012 | 6:05:33 | 21.45 | 1.221 | 17.49 | 7.716 | 4.49 | 109.3 | -407 | 2.9 | 0.26 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4/19/2012 | 6:10:33 | 21.45 | 1.22 | 17.49 | 7.718 | 4.49 | 109.3 | -407 | 2.9 | 0.26 |
| 4/19/2012 | 6:15:33 | 21.45 | 1.22 | 17.49 | 7.72 | 4.49 | 109.3 | -407 | 2.9 | 0.26 |
| 4/19/2012 | 6:20:33 | 21.45 | 1.22 | 17.49 | 7.722 | 4.49 | 109.3 | -406 | 3 | 0.26 |
| 4/19/2012 | 6:25:33 | 21.45 | 1.221 | 17.49 | 7.722 | 4.49 | 109.2 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 6:30:33 | 21.45 | 1.221 | 17.49 | 7.725 | 4.49 | 109.2 | -406 | 3 | 0.26 |
| 4/19/2012 | 6:35:33 | 21.45 | 1.221 | 17.49 | 7.729 | 4.49 | 109.2 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 6:40:33 | 21.45 | 1.221 | 17.49 | 7.728 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 6:45:33 | 21.45 | 1.221 | 17.49 | 7.728 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 6:50:33 | 21.45 | 1.221 | 17.5 | 7.731 | 4.49 | 109.1 | -406 | 3 | 0.26 |
| 4/19/2012 | 6:55:33 | 21.45 | 1.221 | 17.5 | 7.73 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 7:00:33 | 21.45 | 1.221 | 17.5 | 7.732 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 7:05:33 | 21.45 | 1.221 | 17.5 | 7.736 | 4.49 | 109.1 | -405 | 2.9 | 0.26 |
| 4/19/2012 | 7:10:33 | 21.45 | 1.221 | 17.5 | 7.74 | 4.49 | 109.1 | -405 | 2.9 | 0.26 |
| 4/19/2012 | 7:15:33 | 21.45 | 1.221 | 17.5 | 7.744 | 4.49 | 109.1 | -405 | 3 | 0.26 |
| 4/19/2012 | 7:20:33 | 21.45 | 1.221 | 17.5 | 7.747 | 4.49 | 109.1 | -405 | 2.9 | 0.26 |
| 4/19/2012 | 7:25:33 | 21.45 | 1.221 | 17.5 | 7.751 | 4.5 | 109 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 7:30:33 | 21.45 | 1.222 | 17.51 | 7.754 | 4.5 | 109 | -406 | 3 | 0.26 |
| 4/19/2012 | 7:35:33 | 21.45 | 1.222 | 17.51 | 7.757 | 4.5 | 109 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 7:40:33 | 21.45 | 1.221 | 17.51 | 7.759 | 4.49 | 109 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 7:45:33 | 21.45 | 1.222 | 17.51 | 7.762 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 7:50:33 | 21.45 | 1.222 | 17.51 | 7.762 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 7:55:33 | 21.45 | 1.222 | 17.51 | 7.765 | 4.49 | 109.1 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 8:00:33 | 21.45 | 1.222 | 17.51 | 7.769 | 4.49 | 109.2 | -406 | 3 | 0.26 |
| 4/19/2012 | 8:05:33 | 21.45 | 1.222 | 17.51 | 7.772 | 4.49 | 109.3 | -406 | 3 | 0.26 |
| 4/19/2012 | 8:10:33 | 21.45 | 1.222 | 17.51 | 7.774 | 4.49 | 109.3 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 8:15:33 | 21.45 | 1.223 | 17.52 | 7.776 | 4.49 | 109.3 | -407 | 2.9 | 0.26 |
| 4/19/2012 | 8:20:33 | 21.45 | 1.223 | 17.52 | 7.778 | 4.49 | 109.2 | -406 | 3 | 0.26 |
| 4/19/2012 | 8:25:33 | 21.45 | 1.223 | 17.52 | 7.782 | 4.49 | 109.2 | -406 | 3 | 0.26 |
| 4/19/2012 | 8:30:33 | 21.45 | 1.223 | 17.52 | 7.786 | 4.49 | 109.2 | -406 | 3 | 0.26 |
| 4/19/2012 | 8:35:33 | 21.45 | 1.224 | 17.52 | 7.79 | 4.49 | 109.3 | -406 | 3 | 0.26 |
| 4/19/2012 | 8:40:33 | 21.45 | 1.223 | 17.52 | 7.793 | 4.49 | 109.3 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 8:45:33 | 21.45 | 1.224 | 17.52 | 7.797 | 4.49 | 109.3 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 8:50:33 | 21.45 | 1.224 | 17.53 | 7.799 | 4.49 | 109.3 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 8:55:33 | 21.45 | 1.224 | 17.53 | 7.805 | 4.49 | 109.3 | -406 | 3 | 0.26 |
| 4/19/2012 | 9:00:33 | 21.45 | 1.225 | 17.53 | 7.805 | 4.49 | 109.3 | -406 | 3 | 0.26 |
| 4/19/2012 | 9:05:33 | 21.45 | 1.225 | 17.53 | 7.81 | 4.49 | 109.3 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 9:10:33 | 21.45 | 1.224 | 17.53 | 7.813 | 4.49 | 109.3 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 9:15:33 | 21.45 | 1.225 | 17.53 | 7.82 | 4.49 | 109.3 | -406 | 2.9 | 0.26 |
| 4/19/2012 | 9:20:33 | 21.45 | 1.224 | 17.53 | 7.82 | 4.49 | 109.3 | -406 | 3 | 0.26 |
| 4/19/2012 | 9:25:33 | 21.45 | 1.225 | 17.54 | 7.824 | 4.49 | 109.3 | -407 | 3 | 0.26 |
| 4/19/2012 | 9:30:33 | 21.45 | 1.225 | 17.54 | 7.829 | 4.49 | 109.4 | -407 | 3 | 0.26 |
| 4/19/2012 | 9:35:33 | 21.45 | 1.226 | 17.54 | 7.833 | 4.49 | 109.4 | -407 | 3 | 0.26 |
| 4/19/2012 | 9:40:33 | 21.45 | 1.226 | 17.54 | 7.836 | 4.49 | 109.4 | -407 | 3 | 0.26 |
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| | | | | | | | | | | |
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HSI SITE NO. 10464, PCE REMEDIATION, VOPAK TERMINAL SAVANNAH

# COMPLIANCE STATUS REPORT

## Exhibit D:
## Seventh VIRP Semi-annual Progress Report

(Included on Enclosed CD)

ENVIRONMENTAL INTERNATIONAL CORPORATION
161 Kimball Bridge Road, Suite 100, Alpharetta, GA 30009
Phone: 770-772-7100, Fax: 770-772-0555
Email: rajmahadevaiah@eicusa.com
Website:www.eicusa.com

*Our Contribution to the Environment*

February 27, 2015

Mr. Jason Metzger
Georgia Department of Natural Resources
Response and Remediation Program
Suite 1462 East Tower
2 Martin Luther King, Jr. Drive, S.E.
Atlanta, Georgia 30334-9000

**Subject:** **Seventh VIRP Semi-annual Progress Report**
**VOPAK Terminal Savannah**
**HSI Site No. 10464**
**Turner and Hart Street, Savannah, Chatham County, Georgia**
**Tax Parcel: 1-0618-01-003L**

Dear Mr. Metzger:

On behalf of VOPAK Terminal Savannah, Inc. Environmental International Corporation (EIC) is pleased to submit the attached Seventh VIRP Semi-annual Progress Report for the above referenced site.

Enclosed are the following:

1. One signed and sealed certification page for the Semiannual Report.
2. One bound paper copy of the Seventh VIRP Semi-annual Progress Report.
3. Two Compact Discs each with the report in searchable PDF format.

If you have any questions regarding this submittal, please contact Mr. Branden Jones of VOPAK at 912-964-1811 extn. 10114, or me at the above location.

Sincerely,
ENVIRONMENTAL INTERNATIONAL CORPORATION

Raj Mahadevaiah, P.E., C.G.W.P.
President & CEO

Cc: Branden Jones, VOPAK
Chris Novack, GPA

## CERTIFICATION AND SUPPORTING DOCUMENTATIONS
**Seventh VIRP Semi-annual Progress Report**
**VOPAK Terminal Savannah**
**HSI Site No. 10464**
**February 27, 2015**

*"I certify under penalty of law that the accompanying report referenced above and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.*

*Furthermore, to document my direct oversight of the Voluntary Investigation and Remediation Plan (VIRP) development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.*

*The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

Basavaraj Mahadevaiah, GA PE No. 23198
Environmental International Corporation
770-772-7100, ext. 223

2/27/15
Date

GEORGIA REGISTERED No. 23198 PROFESSIONAL ENGINEER BASAVARAJ MAHADEVAIAH

Signature and Stamp

PCE REMEDIATION, HSI SITE 10464, VOPAK TERMINAL SAVANNAH
SAVANNAH, GEORGIA

# SEVENTH VIRP SEMI-ANNUAL PROGRESS REPORT

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2/27/2015

Submitted To:
**GEORGIA ENVIRONMENTAL PROTECTION DIVISION**
Georgia Department of Natural Resources
Response and Remediation Program
Suite 1462 East Tower
2 Martin Luther King Jr. Drive, S.E.
Atlanta, Georgia 30334

Prepared for:
**VOPAK TERMINAL SAVANNAH**
P.O. Box 7390
Savannah, Georgia 31418-7390

Prepared by:
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A. October 2014 EIC Well Purging and Sampling Data Field Logs
B. Lab Analytical Results for Groundwater Samples October 2014
C. Monthly Summary of Hours Invoiced (Sep. 2014 – Feb. 2015)

SECTION

1

# 1.0 Introduction

On behalf of VOPAK, Environmental International Corporation (EIC) is pleased to submit the Seventh VIRP Semi-annual Progress Report for review by the Georgia Environmental Protection Division (EPD). This report was prepared as specified in the April 2, 2011 "Revised Voluntary Investigation and Remediation Plan (VIRP) and Application" that was approved by the EPD on August 31, 2011 under the Voluntary Remediation Program (VRP) (EIC, 2011a).

## 1.1 Primary Objectives

The primary objective of this report is to present a compilation of tasks completed and findings determined by EIC during the six-month period from September 2014 through February 2015. This report documents the following subjects:

- Follow up responses to the April 3, 2014 EPD comment letter, regarding additional tasks completed, and a response to the February 6, 2015 EPD comment letter.
- Well abandonment and repair activities
- Continued evaluation of COC trends
- Evaluation of natural attenuation conditions

The following sections describe each task.

SECTION

2

# 2.0 EPD Comment Letters

## 2.1 EPD Comment Letter dated April 3, 2014

In response to EPD's comment letter dated April 3, 2014, EIC had addressed each comment in EIC's Sixth VIRP Semi-annual report dated August 29, 2014. The following subsections update selected comments pertaining to the EPD's April 3, 2014 comment letter and pertaining to tasks EIC completed since the Sixth VIRP Semi-annual report submittal.

### 2.1.2 EPD Comment 4

*The approved VIRP checklist required that the Conceptual Site Model (CSM) and Remediation Plan be finalized by February 28, 2014. However, the Fifth VIRP Semi-Annual Progress Report does not provide a clear remedial plan or address all potential exposure pathways. Given that the VIRP schedule calls for submission of the Compliance Status Report by August 31, 2016, and the rate of contaminant attenuation is not likely to reduce COC concentrations to RRS by that date, VOPAK must consider active corrective action or certifying to Type 5 RRS. Type 5 RRS would include Uniform Environmental Covenants (UECs) to restrict groundwater use on affected properties and presenting evidence that contaminated groundwater discharging to the Savannah River will not cause a violation of Georgia In Stream Water Quality Standards. The CSM and remedial plan should also address the potential for vapor intrusion in building in the vicinity of the plume (current and future).*

**Response to EPD Comment 4 previously noted in Sixth Semi-Annual VIRP Report:**

The revised VOPAK Terminal Savannah Site Conceptual Model is included in the Sixth Semi-annual Report as Appendix A. The Revised Site Conceptual Model addresses exposure pathways with updated references to site sub-gradient features. VOPAK is currently developing a protocol for groundwater microcosm testing to determine the most feasible approach to reach remedial end points. Also, EIC is currently evaluating the potential for vapor intrusion for onsite workers. EIC will include this further analysis in the following Semi-annual report.

**Follow Up Response to EPD Comment 4:**

Full evaluation of potential vapor intrusion at the site is pending site redevelopment activities. The "GPA Garage," which is the only building with limited human occupancy, was reduced in size during the railroad spur extension. Currently, the building is approximately one half the size of the original building foot-print. If GPA continues to utilize the building, EIC will include the building in the vapor intrusion study currently under development.

### 2.1.2 EPD Comment 5

*EPD concurs with the conclusion that horizontal delineation is now complete on the downgradient (northern) side of the plume. If subsequent sampling of MW-37on the GAF Material Property (southern side of plume) continues to show concentrations of contaminants of concern above the delineation standard, further delineation may be required in that area.*

**Response to EPD Comment 5 previously noted in Sixth Semi-Annual VIRP Report:**

The EPD's concurrence of the downgradient (northern) side of the plume is noted and will be referenced in future reports. If during the next semi-annual sampling event, scheduled for October 2014, any constituents of concern (COCs) at MW-37 continue to exceed the delineation standard or criterion, EIC will evaluate concentration trends of COCs at MW-37 and investigate the possibility of any off-site sources of COCs in determining whether an additional monitoring well is necessary to delineate the up-gradient side of the plume.

**Follow Up Response to EPD Comment 5:**

The completion of the October 2014 sampling event (described in Section 4 of this report) confirms sustained concentrations of monitored contaminants of concern above the delineation standard in the area of MW-37. Trend analysis of contaminant concentrations at this well is included in Section 5 of this report. Considering that MW-37 is hydraulically upgradient of the previously known PCE release at Tank 24 of VOPAK Tank Farm No. 2, EIC is unable to confirm the potential source of COCs in MW-37.

### 2.1.3 EPD Comment 7

*EPD acknowledges attempts to locate and rehabilitate or abandon wells noted in our comment letter of November 20, 2012. Please complete abandonment of monitoring wells IW-1 and IW-2. Although it is preferable to remove the well screen and casing, the USEPA SESD guide, Design and Installation of Monitoring Wells (SESDGUID-101-R1), permits backfilling the well with bentonite or neat cement with the casing in place if it cannot be removed. Please refer to that document and follow the method of abandonment with the casing in place for wells where it is not practicable to remove the casing because of danger to existing infrastructure.*

**Response to EPD Comment 7 previously noted in Sixth Semi-Annual VIRP Report:**

Due to site conditions, it is not practicable to remove the well casing at well IW-1 nor to over-ream this well with augers (due to the possible presence of nearby buried utilities), per SESDGUID-101-R1. Consequently, EIC plans to remove a temporary concrete patch EIC installed over this well and to backfill the well casing with a 30-percent solids bentonite grout to within 6 inches from the surface. Abandonment will be completed by installing a permanent six-inch thick concrete cap over the grout/excavation to ground surface.

As detailed in the fifth semi-annual VIRP progress report (EIC, 2014), a rhodimet product line was accidentally ruptured by an auger bit during the over-reaming of well IW-2. Augering was discontinued at a depth of approximately 3 feet below ground surface. During rhodimet cleanup activities by VOPAK, rhodimet-stained soil was removed from the borehole and the borehole was expanded to a diameter of approximately 2 feet. As other product lines and a possible electrical conduit lie less than one foot from the original well at this depth, EIC plans to abandon monitoring well IW-2 by backfilling the existing 3-foot deep excavation with a 30-percent solids bentonite grout to within 6 inches of the surface. Abandonment will be completed by installing a six-inch thick concrete cap over the grout to ground surface.

These well abandonment activities are scheduled to be completed during the next semi-annual groundwater monitoring event in October 2014.

**Follow Up Response to EPD Comment 7:**

The abandonment of wells IW-1 and IW-2 was completed in October of 2014 and is described in Section 3 of this report.

## 2.2 EPD Comment Letter dated February 6, 2015

EIC received a copy of EPD's February 6, 2015 comment letter on February 13, 2015 via email. Following is a response to each comment.

### 2.2.1 EPD Comment 1

*As noted in correspondence from EPD regarding previous sampling events, the observed concentrations of PCE and other COCs during the April 2014 sampling event suggest that the site will not reach Type 1 through 4 risk reduction standards (RRS) within the timeline of the approved VIRP (by August 31, 2016). Based on our August 11, 2014 meeting, we understand that the next report will evaluate the timeline and should propose alternatives to reach the standards, such as active corrective action or certification to Type 5 RRS with Uniform Environmental Covenants (UECs) to address exposure pathways.*

**Response to EPD Comment 1**

As discussed in the Sixth VIRP Semi-Annual Progress Report, MNA had substantially reduced the PCE under favorable MNA conditions. Based on the base plume originally defined in the VIRP, MNA was progressing reasonably well, negating the requirement for an active remediation. It is important to recognize, however, that additional wells installed during horizontal delineation under the VIRP revealed additional areas of COC contamination. For instance, well MW-32 was installed during the VIRP program as a replacement well for well MW-20, which was not sampled since August 2003. It appears that MW-20 was destroyed or paved over. After installation, PCE concentrations at MW-32 have steadily increased until the last sampling event in October 2014, when the PCE concentration dropped by approximately 68% compared to the April 2014 sampling event. EIC will further verify the PCE concentration trend at this and other wells in subsequent sampling events.

As discussed in the VIRP, VOPAK has authorized EIC to evaluate potential alternatives to accelerate the MNA process. In this regard, VOPAK recently conducted one round of groundwater sampling from selected wells to determine the current status of key indicators of MNA parameters. This is an important step in developing options for microcosm evaluation for potential enhanced attenuation or certification options. In addition, EIC is in the process of developing a contingency plan as discussed in Section 5.

### 2.2.2 EPD Comment 2

*The Mann-Kendall analysis provided for selected wells was helpful in assessing trends. In future reports please include trend analysis charts for all wells with ongoing detections above RRS. For example, MW-32 has an obvious upward trend in concentration as impaired groundwater migrates north-easterly and likely into the Tidal Flat.*

**Response to EPD Comment 2**

The purpose of the Mann-Kendall analysis is to evaluate the attenuation potential of up-gradient, mid-gradient, and down-gradient wells. We do not have evidence of plume migration as discussed in Section 5.

### 2.2.3 EPD Comment 3

*EPD has noted VOPAK's intention to evaluate the vapor intrusion potential onsite. There may be some concern with the "GPA Garage", which sits above the plume and may be a location in which workers are regularly present. This risk as well as the risk to potential future buildings will need to be addressed in any institutional controls.*

**Response to EPD Comment 3**

These risks will be addressed in a vapor intrusion study, as noted in Section 2.1.2.

### 2.2.4 EPD Comment 4

*Considering the shallow groundwater present in many areas of the site, there is some concern for exposure to construction workers. This risk will need to be addressed in any institutional controls.*

**Response to EPD Comment 4**

These risks will be addressed in a vapor intrusion study, as noted in Section 2.1.2.

### 2.2.5 EPD Comment 5

*EPD has noted the intention to assess the potential of preferential flow through utility trenches, such as the large storm water conveyance pipe discharging to the Tidal Flat near MW-32. Please note that VOPAK will need to provide evidence that contaminated groundwater discharging to the Savannah River (or the Tidal Flat) via any pathway will not create ecological risks associated with concentrations in surface water or sediment. Evidence is needed to support the claim that the sheet pile wall is an effective hydraulic barrier.*

**Response to EPD Comment 5**

EIC will compile available drawings and construction details for subgrade structures in the area, including the sheet pile wall installation, and evaluate the fluid flow mobility as it relates to COCs of interest.

### 2.2.6 EPD Comment 6

*EPD has noted the sampling challenges cited in the Report related to turbidity stabilization and drawdown minimization. Please continue to make all efforts to adhere to USEPA SESD standard operating procedure, Groundwater Sampling (SESDPROC-301-R3), with a specific focus on stabilization criteria. Also, while the additional purging of well IW-1R described in the Report may be useful, EPD does not agree that it can be considered "redevelopment".*

**Response to EPD Comment 6**

EIC will continue to attempt stabilization and minimization of drawdown. It is important to note that the site conditions such as short water columns, low recharge rates, and small well diameters may present continued challenges during future sampling events. EIC made reasonable attempts to redevelop IW-1R as discussed in Section 3.2.3.3 of the Sixth VIRP Semiannual Progress Report. EIC is uncertain if EPD requires additional steps for "redevelopment."

SECTION

3

# 3.0 Well Modifications

To meet the objectives set forth in Comment 7 of the EPD's April 3, 2014 VIRP comments letter (Section 2) and to address well-related issues regarding the proposed construction of a new railroad spur by the Georgia Ports Authority (GPA), VOPAK conducted various field tasks in October and December of 2014. These tasks included completing the abandonment of two former injection wells south of Tank Farm # 2, the replacement of a damaged concrete pad and vault at well LAW-PZ-8R, and the abandonment of two former injection wells east of Tank Farm # 2 - which were located within the proposed construction area for the new railroad spur. These site modifications are illustrated in Figure 3-1. The following subsections describe the relevant tasks completed by EIC.

## 3.1 Railroad Spur Impact Evaluation

In October 2014, VOPAK retained EIC to complete an impact assessment of a proposed railroad spur on the site's groundwater monitoring network. This railroad spur was proposed for construction in January 2015 along the east side of Tank Farm # 2, as shown in Figure 3-2. EIC generated Figure 3-2 from plan drawings supplied by GPA and prevailing well locations to evaluate the potential impact of the construction on wells. This analysis showed that two former injection wells, IW-6 and IW-7, which lied directly in the proposed path of the railroad spur, would likely be destroyed during construction of the spur. The abandonment of these two wells was completed in December 2014 as discussed in Section 3.2. EIC determined that wells lying within a 10-foot buffer around the proposed construction area (Figure 3-2) could potentially be damaged by construction activities. An evaluation of the impact of the construction activities on these wells by EIC is pending the completion of the railroad spur.

## 3.2 Well Abandonment And Repairs

During two mobilizations that EIC conducted in October 2014 and in December 2014, EIC completed several tasks pertaining to the existing monitoring well network. The following sections describe the related tasks.

### 3.2.2 Utility Clearance

Clearance for buried utilities was not required for abandonment of wells IW-1 and IW-2, as these wells were to be abandoned in-place and no intrusive drilling or other excavation activities were anticipated. Since abandonment of wells IW-6 and IW-7 required over-reaming with powered augers, EIC determined from VOPAK that buried utilities had previously been located and marked in the area of these wells by a GPA contractor in preparation for the installation of the proposed rail spur. EIC also understood that utilities that had been marked included power lines, gas lines, communication lines, product lines, and water lines. Upon arrival at the site for abandonment of IW-6 and IW-7, EIC observed that the locations of buried power lines had been clearly marked on the pavement in the area of these wells. Based on the observation, it was apparent that no power lines were present near IW-6 or IW-7. No other utilities were identified in these wells.

### 3.2.3 Site Access

EIC did not encounter any limitations in accessing the areas to conduct the well-related tasks. EIC coordinated with VOPAK, regarding all site activities for access, as needed.

### 3.2.4 Well Abandonment

During each of EIC's two mobilizations to the site, an EIC professional geologist supervised the abandonment of each of four wells in accordance with the Design and Installation of Monitoring wells (SESDGUID-101-R1) in the United States Environmental Protection Agencies (EPA's) Region IV Field Branches Quality System and Technical Procedures document (EPA 2013a), with the Water Well Standards Act of 1985, O.C.G.A. 12-5-120 (GA 2011), and in accordance with Comment 7 of the EPD's April 3, 2014 comments letter. Details of the abandonment procedures are described in the following two sections.

#### 3.2.4.1 Wells IW-1 and IW-2

During EIC's first mobilization in October 2014, utilizing maintenance contractor, U.S. Mechanical Contractors, Ltd., under contract with VOPAK, EIC completed the abandonment of wells IW-1 and IW-2.

To complete the abandonment of well IW-1, initially, a temporary concrete patch that EIC had installed over this well in December 2013 and the original underlying well vault/concrete pad were removed. Next, the well PVC cap was removed and the well casing was completely filled in place with a 30-percent solids bentonite grout slurry, as shown in Photo 1. The well cap was then replaced and abandonment was completed by installing a permanent approximately 1-foot thick concrete pad flush-to-grade (FTG) over the well casing and within the excavated pit where the former concrete pads had been removed. Photo 2 shows the completed well abandonment.

After VOPAK had completed rhodiment cleanup activities at IW-2 in December 2013, an approximately 3 feet deep and 2-foot diameter open hole remained. VOPAK then placed a steel plate over this hole to accommodate vehicle traffic. To complete the abandonment of well IW-2, the steel plate was removed, water that had accumulated in the hole was pumped out, and sediment that had accumulated in the bottom of the hole was removed. The open hole was then filled with a 30% solids bentonite grout slurry to within six inches below ground surface. After allowing an adequate period for the grout to solidify (as shown in Photo 3), abandonment was completed by installing a concrete pad, reinforced with steel rebar and with a thickness of approximately 6 inches, FTG over the grout. Photo 4 shows the completed well abandonment.

During the abandonment of wells IW-1 and IW-2, soil, sediment, and concrete pad debris had been removed and containerized in labeled 55-gallon drums for later disposal by VOPAK. On each non-hazardous waste label, EIC noted VOPAK as the generator, investigative derived waste (IDW) soil as the contents, and noted the accumulation date.

#### 3.2.4.2 Wells IW-6 and IW-7

During EIC's second site mobilization to abandon wells in December 2014, EIC completed the abandonment of wells IW-6 and IW-7 utilizing drilling contractor Environmental Monitoring Services. Initially, the well vaults/concrete pads surrounding these wells were excavated and removed. Next, buried utilities were checked at each well casing utilizing a hand auger followed by slow advancement of powered augers to a depth of 5 feet. Next, utilizing a GeoProbe drill rig with 4.25-inch internal diameter (ID) decontaminated Hollow Stem Augers (HSA), each well borehole was over-reamed, whereby the PVC well casing, cement grout, bentonite seal, and sand filter pack were removed. The open boreholes were then filled with a 30% solids bentonite grout slurry from the borehole total depth to within six inches below ground surface. Photo 5 illustrates the boreholes filled with this grout.

After allowing an adequate period for the grout to solidify, a concrete pad with a thickness of approximately 6 inches was then installed FTG over the grouted hole. Photos 6 and 7 show the completed well abandonment for wells IW-6 and IW-7, respectively. As with the abandonment of wells IW-I and IW-2, EIC had soil cuttings, well casing material, and original concrete pads materials containerized in labeled 55-gallon drums for later disposal by VOPAK.

### 3.2.5 Repair of FTG Vault/Concrete Pad at LAW-PZ-8R

During EIC's site visit in April, 2014, EIC observed that the well vault and concrete pad of well LAW-PZ-8R had been damaged from site activities resulting in a severely shifted, tilted, and loosened well casing. The damage apparently took place from tanker trucks driving over a portion of the well. However, the 1-inch diameter PVC well casing was found undamaged. During the first mobilization for well repairs in October 2014, EIC directed the mechanical contractor to remove a damaged FTG 8-inch diameter/deep well vault and an approximately 2-foot long by 2-foot wide by 0.25 to 0.5-foot thick square concrete pad at LAW-PZ-8R. EIC then directed the contractor to

replace it with an identical 8-inch vault, that EIC provided, and an approximately 2.5-foot diameter and 0.75-foot thick circular concrete pad per SESDGUID-101-R1 and O.C.G.A. 12-5-120.

The new well vault installed included a bolted lid. The pit that was excavated around the well for the new concrete pad was substantially larger and deeper than the one of the previous pad allowing for a larger and stronger concrete pad. Photo 8 shows the completed new well vault/pad. The resulting soil and concrete debris were containerized in labeled 55-gallon drums for later disposal by VOPAK.

### 3.2.6 Basemap Revisions

Based on the abandonments and repairs to the site wells, EIC revised the site basemap to reflect the well abandonments.

SECTION

4

# 4.0 Groundwater Monitoring

The semi-annual groundwater monitoring (sampling) event documented in this section was conducted during October 2014. This was the first semi-annual sampling event of the VIRP program following EPD's approval of semi-annual sampling as opposed to quarterly sampling previously performed at the site. EPD's approval of change in sampling frequency is noted in Comment 3 of its April 3, 2014 comment letter (Section 2.0).

The sampling event entailed the collection of groundwater samples for analysis from wells within the previously established area of concern with constituents (or contaminants) of concern (COCs) including dissolved chlorinated volatile organic compounds (CVOCs) and volatile organic compounds (VOCs) contamination. This was the eleventh monitored natural attenuation (MNA) sampling event overall since the approval of the VIRP (EIC, 2011a) and the first semi-annual sampling event since the 2014 second semi-annual report, submitted on August 29, 2014 (EIC, 2014b).

During this event, all available monitoring wells and two selected former injection wells within and adjacent to the CVOC/VOC contaminant plumes were utilized for groundwater sampling. Accordingly, EIC collected groundwater samples for CVOC/VOC analysis from a total of 25 wells. Additionally, monitoring well MW-28, which had previously been designated as un-located on historical maps, was discovered on GAF property and sampled during this event. A description of the location and condition of MW-28 is detailed in Section 4.2.4.

In addition to the routine groundwater monitoring activities at the site to measure CVOC/VOC concentrations, EIC collected additional samples in select wells for the purpose of analyzing parameters which are indicative of the natural attenuation of COC plumes. This sampling and analysis are summarized in Sections 4.2.3 and 4.4.5, respectively.

The analytical data from the October 2014 sampling event was compared to the first quarterly sampling event (EIC, 2011b) and all other subsequent sampling events (EIC, 2012a, 2012b, 2012c, 2012d, 2013a, 2013b, 2013c, 2014a, and 2014b respectively) to track prevailing contaminant concentration trends. A previous analysis of these trends were documented in the Site Conceptual

Model (SCM) Report, submitted as Appendix A, of the 6th Semiannual Progress Report (EIC, 2014b).

The following subsections describe the results of the seventh groundwater monitoring event.

## 4.1 Groundwater Monitoring Objective

During the October 2014 groundwater monitoring event, the primary objective was to meet the following goals set forth in the VIRP.

- Review plume stability.
- Track natural attenuation of COCs by monitoring the groundwater concentrations of VOCs/CVOCs within the existing plume.
- Determine if the prevailing groundwater contaminant concentrations meet or are trending towards meeting the established RRS.
- Determine if the horizontal and vertical extents of the COC on all impacted properties have been and remain defined, respectively.
- Determine if conditions throughout the plume promote natural attenuation.

The following sections outline the tasks performed by EIC to meet this objective.

## 4.2 Groundwater Monitoring Field Program

During the October 2014 groundwater monitoring event, EIC conducted groundwater monitoring utilizing 22 shallow monitoring wells, two shallow injection wells, and one deep monitoring well. EIC also conducted MNA parameter sampling at six of these shallow monitoring wells. The site layout is illustrated in Figure 4-1. The following sub-sections describe EIC's technical approach during this event.

### 4.2.1 Sampling Protocol

The groundwater sampling program was conducted in accordance with the current U.S. Region 4 EPA groundwater sampling procedure "Field Branches Quality System and Technical Procedures" (FBQSTP) per EPD regulations. Each monitoring well was gauged, purged, and sampled following the "low-flow" purge technique established in the standard operating procedure (SOP) SESDPROC-301-R3 under the FBQSTP (EPA, 2013b).

### 4.2.2 Site Access

Prior to EIC's site visit, EIC coordinated with the GPA and GAF Materials Corp. (GAF) in gaining access during the sampling event to collect groundwater samples from a total of seven off-site monitoring wells MW-17R, MW-28, MW-32, MW-34, MW-35, MW-36, and MW-37. Monitoring

wells MW-28 and MW-37 are located on GAF property and wells MW-17R, MW-32, MW-34, MW-35, and MW-36 are located on GPA property.

### 4.2.3 Field Procedures

Prior to sampling, EIC gauged each well with a Solinst Model 122 interface meter ("oil/water interface probe") to determine the static depth to groundwater. EIC utilized top-of-casing (TOC) elevations from the most recent well surveys to determine the current groundwater elevations. The gauging data is tabulated in Table 4-1.

Prior to EIC initiating field sampling activities, EIC obtained a 55-gallon drum from VOPAK to containerize purged groundwater. During the October 2014 event, the 55-gallon drum was placed on the west shoulder of the road between Tank Farm #2 and Tank Farm #3, near well MW-27. EIC placed a non-hazardous waste label on the drum and marked the contents on it as investigative derived waste ("IDW") well purge water and the accumulation date with a black permanent marker. The drum was later disposed of by VOPAK.

At each well-head designated for sampling, EIC monitored VOC air concentrations in parts per million (ppm) with a calibrated photoionization detector. A total of three measurements were taken at each well to document VOC concentrations in the ambient air within two feet of and outside the outer well casing, air between the inner well casing and the outer protective casing or vault, and air within the inner well casing once the well cap was removed. The VOC concentrations observed during the second quarter of 2014 were recorded on EIC's October 2014 Well Purging and Sampling Data field logs (Attachment A).

EIC utilized a peristaltic pump for purging and sampling. New disposable 1/4-inch inner diameter and 3/8-inch outer diameter Teflon-lined tubing was utilized at all wells for purging. The well purging data is represented in Table 4-2. Groundwater from each monitoring well was pumped via the peristaltic pump through a multi-parameter field water quality meter equipped with a flow-through cell. Based on the depth to groundwater that was determined during gauging and the known depth to the bottom of the screened interval of each well, EIC determined the depth to set the Teflon-lined tubing intake. Following the SOP, SESDPROC-301-R3, EIC set the tubing intake at the center of the available wetted screen interval.

After purging began and prior to sampling at each well, water quality parameters, including temperature, pH, oxidation-reduction potential (ORP), specific conductivity, turbidity, and dissolved oxygen (DO) were monitored. Additionally, the rate of evacuation and depth to water, if possible, were measured at approximately 5-minute intervals until water quality parameters stabilized, per SESDPROC-301-R3. EIC considered that parameters had stabilized when 3 consecutive readings were within ± 0.1 for pH and ± 5% for specific conductivity. Additionally, reasonable attempts were made to reach 0.2 mg/L DO and a turbidity reading at or below 10 Nephelometric Turbidity Units (NTUs) at each well. These measurements were recorded on EIC's Well Purging and

Sampling Data field logs and are presented with historical data in Table 4-3. Depth to water readings were taken before, during, and after pumping in wells with two-inch ID casing and before and after pumping in wells with 1-inch ID casing, as the water probe could not fit into 1-inch wells while the tubing was in the well.

After water quality parameters had either stabilized or reasonable attempts had been made to reach stabilization, EIC collected groundwater samples from each well. Samples for CVOC/VOC analysis were collected at all 25 wells sampled while 6 specific wells were also sampled for MNA parameters. CVOC/VOC samples were collected utilizing the "soda straw method", per SESDPROC-301-R3, whereby the Teflon-lined tubing was removed from the well, the peristaltic pump was switched to positive head displacement, and sample bottles filled from the bottom end of the tubing. To ensure that no groundwater in the tubing from or beyond the peristaltic pump head reached the sample bottles during sample collection, EIC utilized a minimum of 20 feet of tubing from the pump head.

At wells selected for MNA parameter sampling, prior to collecting CVOC/VOC samples, a segment of Teflon-lined tubing between silicon tubing at the pump head and the field water quality meter was removed and MNA parameter samples were collected directly from the silicon tubing at the pump head. Following the MNA parameter sampling at each of these wells, the above procedure for CVOC/VOC sampling was followed. All sample bottles were properly sealed and labeled in the field. Each sample set was then stored with ice in insulated cooler containers provided by the laboratory. Completed and signed chain of custody forms accompanied all samples.

EIC delivered and relinquished the samples to Test America Laboratories, a Georgia-certified laboratory located in Savannah, Georgia, prior to returning to EIC headquarters. The laboratory conducted analysis of volatile organic compounds via EPA method 8260B and of select MNA parameters as described in Section 4.4.5. The laboratory report for the October 2014 event is included as Attachment B. The results of the MNA parameters and COC analysis of samples collected during this event, along with historical MNA and COC analytical data, are summarized in Table 4-3 and Table 4-4, respectively.

### 4.2.4 Discovery of Well MW-28

While conducting sampling on GAF property, an unknown well was brought to the attention of EIC field technicians by GAF staff. Upon examination, EIC determined that the identity of the well was MW-28, based on the well name being etched into its concrete pad. EIC documented the condition of the well and gauged its depth to water and total depth. As the well appeared to be in good condition and apparently did not contain any significant silt deposit, EIC elected to sample the well, following the same procedure detailed in Section 4.2.3.

Upon conclusion of the field activities, EIC conducted an investigation to determine the potential source of the error that caused the well to be deemed unlocated. The results of the investigation revealed that the drawings that EIC inherited from previous site managers had illustrated MW-28 in a location that placed the well in the middle of the main driveway on GAF property. It appears

therefore that the sampling teams that managed the environmental program prior to EIC could have deemed the well to have been paved over. These are possible reasons for why MW-28 was not identified or sampled after the October 2002 sampling event. Furthermore, MW-28, that was actually adjacent to the GAF building, was also covered with various objects until the recent discovery.

### 4.3 Quality Assurance and Quality Control

For quality assurance and quality control purposes during the groundwater sampling process, EIC submitted one trip blank set, provided by the laboratory, with each sample container with CVOC/VOC samples for analysis via EPA Method 8260B. The trip blanks were stored with ice in the coolers and relinquished to the laboratory along with the rest of the CVOC/VOC samples.

To prevent cross-contamination, new disposable 1/4-inch inner diameter and 3/8-inch outer diameter Teflon-lined tubing was used to collect samples at each well, which was later disposed of. EIC's oil/water interface meter, 2,000 mL cylinder, and Teflon tubing cutter were field decontaminated prior to use and between sample locations by washing with a phosphate-free detergent solution and rinsing with pressurized de-ionized (DI) water. After each sample was collected, the water quality parameters instrument was also decontaminated with DI water.

### 4.4 Data Evaluation

EIC conducted an evaluation of the data compiled from field measurements and laboratory analyses to determine the groundwater potentiometric surface, the horizontal and vertical extent of the prevailing contaminant plumes based on the October 2014 monitoring event. Data from the sampling event was compared with the data from the baseline and each of the eleven subsequent quarterly sampling events to develop a potential strategy to reach remedial end points.

#### 4.4.1 Groundwater Potentiometric Map

Table 4-5 tabulates the historical groundwater elevations for all gauging events at the Site since groundwater monitoring was initiated under the VIRP. From this table, it is apparent that during the October 2014 gauging event, the overall potentiometric surface was similar in elevation to the previous two October gauging events. In general, the potentiometric surface elevation at the Site during the October 2014 event was slightly above the average groundwater elevation.

Figure 4-2 illustrates the potentiometric surface map. Referring to Figure 4-2, certain unique groundwater surface features continue to remain persistent. These features include, most notably, a trough feature, which originates southwest of the southern end of Tank Farm No. 2 and an equipotential (relatively flat) surface within or southwest of Tank Farm No. 2. The prevailing groundwater flow direction in the vicinity of the COC plume footprint is from the southwest to the northeast.

### 4.4.2 Horizontal Extent of COC Plumes

Figure 4-3 illustrates a summary of the analytical results for the COCs from the October 2014 sampling event for each sampled well. Figures 4-4 through 4-11 illustrate each of the eight monitored COC plumes. Table 4-4 lists a compilation of available analytical results dating back to September 1997. The following sub-sections describe a spatial and temporal analysis of the COC plumes.

#### 4.4.2.1 CVOC Plume

The CVOC plume consists of perchloroethylene (PCE), Trichlorethylene (TCE), Cis 1, 2 Dichloroethylene (DCE), and Vinyl Chloride (VC). Based on current analytical results, it apparent that the overall extent and concentration of the CVOC plume at the site has significantly decreased since the inception of the VIRP sampling program in October 2011. However, residual CVOC contamination is present in certain areas. The following subsections describe spatial and temporal changes of individual CVOC constituents since VIRP sampling was initiated in October 2011.

**PCE Plume:**

Figure 4-4 illustrates the horizontal extent of the PCE plume during the October 2014 sampling event. The current PCE plume is composed of two distinctly separated areas of contamination, with one centered near IW-1R at the up-gradient southwestern end of the original CVOC plume footprint, and the second centered near MW-32 near the down-gradient northeastern end of the original CVOC plume footprint.

Within the up-gradient portion of the original CVOC plume footprint, the PCE concentration near IW-1R fell from 310 ug/L to 170 ug/L from April to October 2014 respectively. However, no significant changes in concentrations at the surrounding wells were observed.

Within the down-gradient portion of the original CVOC plume footprint, the overall extent and concentrations in this area has fluctuated since the first VIRP sampling event in October 2011, but overall there has been a decreasing concentrations trend. It is noteworthy that the PCE concentration at MW-32 has significantly decreased from 6,000 ug/L to 1,900 ug/L from April to October 2014, respectively. Additionally, the PCE concentrations reduced in the surrounding wells such as MW-29 and PAN-MW-9. In summary, the overall extents of the PCE plume have reduced or remained stable over time and concentrations are decreasing and trending towards RRS values. Clearly, MNA is effective in reducing the PCE mass concentrations.

**TCE Plume:**

Figure 4-5 illustrates the horizontal extent of the TCE plume during the October 2014 sampling event. The TCE plume is also composed of two distinctly areas of contamination. The up-gradient area of contamination is centered near IW-1R. This area of contamination did reduce slightly in extent since the April 2014 sampling event, where the concentration near IW-1R reduced from 210

ug/L to 190 ug/L. There were also other slight reductions in concentration near the adjacent monitoring wells, such as at wells IW-18 and MW-37.

The down-gradient TCE plume is currently centered near well MW-32. This area of the plume did have a significant reduction in concentration and a slight reduction in horizontal extent. The three most significant areas of reduction occurred near wells MW-29, MW-32, and PAN-MW-9. The concentrations near these wells reduced from 150, 1,500, and 190 ug/L to 55, 680, and 35 ug/L, respectively.

In summary, the overall extents of the TCE plume have reduced or remained stable over time and concentrations are decreasing and trending towards RRS values. Considering that TCE is produced from the reductive dechlorination of PCE, substantial reduction in concentration relative to the original foot-print is indicative that the MNA is effective in reducing the TCE concentrations.

**DCE Plume:**

Figure 4-6 illustrates the horizontal extent of the DCE plume during the October 2014 sampling event. The most significant increase in concentration occurred near LAW-PZ-8R with an increase from 7,400 ug/L to 15,000 ug/L. Prior to this sampling event, the concentration at LAW-PZ-8R had been on a decreasing trend. Significant decreases in concentration occurred at most other areas of the plume footprint, such as at wells IW-1R, IW-18, MW-16, MW-24R, MW-29, and at PAN-MW-9. The most significant reduction in DCE concentration occurred near well MW-29, which decreased in concentration from 8,400 ug/L to 4,300 ug/L from April to October 2014, respectively. Therefore, it appears that DCE concentrations will continue to persist at the Site until the source PCE and TCE plumes have fully attenuated.

In summary, the overall extent of the DCE plume has reduced or remained stable over time and concentrations are decreasing and trending towards RRS values. Considering that DCE is a second step daughter product from the reductive dechlorination of PCE, substantial reduction in concentration relative to the original foot-print is indicative that the MNA is effective in reducing the DCE concentrations.

**VC Plume:**

Figure 4-7 illustrates the horizontal extent of the VC plume during the October 2014 sampling event. Relative to the October 2014 VC plume, the up-gradient VC concentration in the southwestern portion of the original CVOC plume footprint, increased in concentration - most notably near LAW-PZ-8R, where the VC concentration increased from 980 ug/L to 1,900 ug/L. This major increase in VC concentration may be indicative of an increased rate of degradation of PCE and DCE, reconfirming MNA activity. The further breakdown of VC into ethene and ethane would indicate that natural attenuation is leading to the complete mineralization of PCE by MNA. The further breakdown of VC into ethene and ethane is discussed in Section 4.4.5 regarding metrics for natural attenuation.

#### 4.4.2.2 VOC Plume

The VOC plume consists of Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX). Since the first VIRP sampling event, conducted in October 2011, the VOC plume concentrations within the original VOC plume footprint had declined substantially. Based on the more recent sampling events in 2014, however, BTEX concentrations have been increasing at well LAW-PZ-8R. The following subsections describe spatial and temporal changes of individual VOC constituents since VIRP sampling was initiated in October 2011.

**Benzene Plume:**

Figure 4-8 illustrates the horizontal extent of the benzene plume during the October 2014 sampling event The benzene plume is composed of two isolated areas of contamination near the up-gradient and down-gradient portions of the original VOC plume footprint. The benzene plume continues to maintain stability except that the concentrations at LAW-PZ-8R increased threefold from 1,200 ug/L in April 2014 to 3,400 ug/ L - the highest ever recorded. By contrast, benzene concentrations at well MW-26R reduced from 110 ug/L to 19 ug/L. Nevertheless, the benzene plume remains stable within the original plume foot-print.

**Toluene Plume:**

Figure 4-9 illustrates the horizontal extent of the toluene plume during the October 2014 sampling event. Until the last sampling event in January 2014, the toluene plume concentrations were on a decreasing trend and had remained below the RRS limit. In October 2014, however, the toluene increased in LAW-PZ-8R to 800 ug/L, therefore exceeding the RRS limit. Nevertheless, the toluene plume remains stable within the original foot-print.

**Ethylbenzene Plume:**

Figure 4-10 illustrates the horizontal extent of the ethylbenzene plume during the October 2014 sampling event. Similar to toluene, the ethylbenzene plume was on a decreasing trend and had remained below the RRS limit. Between the January 2014 and October 2014 sampling events, however, the ethylbenzene concentration increased in LAW-PZ-8R almost threefold - from 4,900 ug/L to 13,000 ug/L, thereby exceeding the RRS limit. Nevertheless, the ethylbenzene plume remains stable within the original foot-print.

**Total Xylenes Plume:**

Figure 4-11 illustrates the horizontal extent of the total xylenes plume during the October 2014 sampling event. As with the benzene, toluene, and ethylbenzene plumes, the overall extent of the total xylenes plume was on a decreasing trend. Between the April 2014 and October 2014 sampling events, however, the total xylenes concentration at well LAW-PZ-8R had significantly increased threefold from 58,000 ug/L to 180,000 ug/L. Nevertheless, the total xylenes plume remains stable within the original foot-print.

### 4.4.3 Vertical Extent of COC Plumes

The historical groundwater sampling results of samples from the single deep well MW-14 within the original COCs footprint through October 2014 are tabulated in Table 4-4. Since the redevelopment and integration of well MW-14 into the regular CVOC and VOC sampling schedule in October 2013, EIC confirmed that all monitored COC concentrations in the well were below delineation standards. In the EPD comment letter to VOPAK dated April 3, 2014, the Georgia EPD concurred with EIC that vertical delineation is complete.

### 4.4.5 MNA Indicator Parameter Analysis

As noted in Section 4.2.3, EIC has collected field indicator parameters such as pH, DO, and ORP during groundwater purging prior to sampling events. To determine whether other key indicator parameters continue to demonstrate favorable conditions for MNA, EIC collected one round of groundwater samples for key indicator parameters that require laboratory analysis. The key indicator parameter samples were collected from selected wells, including LAW-PZ-8R, MW-18R, MW-24R, MW-29, MW-32, and MW-33. These wells are located within the original PCE plume footprint.

Table 4-3 includes the results of the indicator parameters appended to data from historic sampling results. Figure 4-12 illustrates the site map with analytical results of the indicator parameters for the respective wells sampled during the October 2014 sampling event.

Referring to the results of the key indicator parameters, it is clear that conditions for the MNA of COCs remain favorable in the majority of the locations within the original PCE plume foot print. The spatial and temporal plume maps included in section 4.4.2 further support evidence of MNA with a substantial reduction of the PCE footprint. Some of the key indicator parameters, such as TOC, sulfite, sulfate, and nitrate, are not within the ideal range for favorable MNA conditions at MW-32 – located at the leading edge of the plume. EIC will verify these results in the next key MNA indicator parameter sampling event.

SECTION

5

# 5.0 Remedial Progress

To determine the remedial progress, EIC performed a spatial and temporal analysis of the COCs and an evaluation of COC trends in individual wells. The following subsections discuss the remedial progress.

## 5.1 Spatial and Temporal Analysis

The spatial and temporal analysis of the plume, discussed in Section 4, provides a clear insight into the overall remedial progress and the plume stability. The following subsections discuss each COC.

### 5.1.1 CVOC Plume

Prior to a discussion of the spatial and temporal extent of the CVOC, it is important to recognize a key well, MW-20, located at the leading edge of the plume, was not sampled since August 2003. It appears that MW-20 was not accessible for sampling as it may have been paved over prior to the implementation of the VIRP. The leading edge of the CVOC plume had therefore remained undefined prior to the implementation of the VIRP.

Prior to the initiation of the VIRP program, EIC installed MW-32 as a replacement well for MW-20 and initiated sampling effective October 2011. During subsequent sampling events, analytical data from MW-32 revealed CVOC concentrations thereby extending the horizontal limits of the base plume originally defined in the VIRP. In reviewing the analytical data, from the most recent sampling event conducted in October 2014, EIC noticed that the PCE concentrations that were previously on an increasing trend have, in fact, decreased substantially. EIC will evaluate the PCE data from subsequent sampling events to determine if the PCE concentrations exhibit a decreasing trend.

The overall extent of the base PCE plume, as defined in October 2011, has substantially reduced in areal extent since the implementation of the VIRP. In fact, data from the July 2012 sampling event indicates that the PCE plume has attenuated within a large area encompassing the middle of the October 2011 baseline plume, resulting in isolated pockets of PCE plume at the leading edge (at MW-32) and at the trailing edge (at IW-1R, that was recently redeveloped and added to the monitoring network) of the plume. TCE, representing PCE's degradation product, followed a

similar trend. By contrast, DCE and VC, that resulted from sequential degradation of TCE, remained persistent throughout the original PCE footprint. Consequently, the PCE and TCE plumes at the leading edge of the plume – as defined since July 2012 - represent isolated pockets of plumes that have not undergone complete degradation. Furthermore, PCE is far less soluble than its degradation products and the seepage velocity, as discussed in the VIRP application, is apparently 21 to 23 feet per year. Considering that the isolated pocket of plume at MW-32 was delineated in less than a year after the inception of the VIRP program, the seepage velocities do not support plume migration within such a short time frame. Consequently, the increase in CVOC concentrations at MW-32, located within an isolated pocket, and the corresponding decrease in CVOC concentrations in the middle of the plume does not represent plume migration. The PCE reduction in the middle of the plume is more likely due to cometabolic degradation with the VOC plume within the PCE footprint.

A more detailed analysis of fluid flow hydrodynamics as well as fate and transport evaluation will be included in an updated site conceptual model currently in preparation. Nevertheless, the CVOC plume has remained stable as evidenced by the consistently low CVOCs concentrations data from sentinel wells comprised of wells MW-17R, MW-36, and PAN MW-10. In summary, MNA appears to be effective in substantial reduction of the baseline PCE plume.

### 5.1.2 VOC Plume

Following a similar cometabolic trend as with the PCE plume, the VOC plume has also reduced substantially in the middle and leading edge of the VOC baseline footprint. This has resulted in an isolated pocket of VOC plume at well LAW-PZ-8R in the trailing edge of the original VOC footprint.

Referring to the October 2014 analytical data, it is apparent that the VOC concentrations have sharply increased at monitoring well LAW-PZ-8R. EIC is conducting an investigation in the area to determine the potential cause for the increased concentrations.

## 5.2 COC Trends in Individual Well

Pursuant to EPD's requirement (Section 2.2.2), EIC prepared trend graphs to illustrate the concentrations of each constituent for all wells with detection limits above RRS. These trend graphs are presented as Figures 5-1 through 5-13.

In general, all graphs illustrate the initial increase in PCE concentrations but then a gradual decline in concentrations during subsequent sampling events. By contrast, the degradation products of PCE have increased in some areas and remained persistent in other areas of the PCE footprint – confirming natural attenuation of PCE. A more detailed analysis of fluid flow hydrodynamics as well as fate and transport evaluation of CVOC and VOC concentrations will be included in an updated site conceptual model currently in preparation.

### 5.3 Remedial Progress

From the aforementioned discussions, it is apparent that MNA is effective at the site. VOPAK is also aware that the VIRP established the regulatory deadline of August 2016 to reach remedial end points. As discussed in Section 5.1, VOPAK was clearly on the path to reach this milestone based on the base COC plumes originally defined in the VIRP. Additional pockets of COCs were, however, discovered after the VIRP implementation. Furthermore, recent sampling data indicates that some of the key indicator parameters are not within the ideal range at one well, potentially impacting the rates of degradation at an isolated pocket in the leading edge of the baseline CVOC plume. Consequently, it appears that the time to reach remedial points may extend beyond the August 2016 deadline. VOPAK is currently in the process of developing a contingency plan to determine whether enhanced attenuation or an alternative remedial approach is feasible to further increase the rate of attenuation to meet the 2016 deadline.

### 5.4 Final Remediation Plan

Based on the remedial progress, VOPAK is currently in the process of updating the MNA process and develop a final remediation plan. As provisioned in the VIRP, contingency measures are being considered to determine whether enhanced attenuation or an alternative remedial approach is feasible to further increase the rate of attenuation to meet the 2016 deadline. As part of the contingency plan, VOPAK is considering the following tasks:

1. Using modeling, statistical analysis, or projections, estimate the time needed to reach remedial end points based on the MNA trends relative to the current COC footprint.
2. Conduct Microcosm Testing and Evaluation to determine whether amendments of some of the key parameters support enhanced attenuation option.
3. Prepare an Updated Site Conceptual Model to define the fluid flow hydrodynamics at the leading edge.
4. Conduct an Evaluation of the integrity of the sheet pile wall and other substructures as effective barriers to the potential migration of COCs.
5. Conduct an evaluation of the potential for treatment of an isolated pocket of COCs using a treatment train.
6. Conduct an evaluation of other options to reach remedial end points within the VIRP deadline or extend the deadline with EPD concurrence.

### 5.5 Updated Schedule and Timeline

Considering that the EPD's February 6, 2015 letter was received only recently, VOPAK will submit a final remediation plan, updated schedule, and cost estimate in the next Semi-Annual Progress Report.

SECTION

6

# 6.0 Summary

VOPAK has addressed the comments noted in EPD's letters dated April 3, 2013 and February 6, 2015. During the current reporting period, EIC also completed the abandonment of certain unused injection wells and other wells that were in the pathway of a rail-spur construction at the Site. Data from the recent October 2014 sampling event, continues to reflect the success of the MNA approach defined in the VIRP.

After the initiation of the VIRP program, however, additional contamination was delineated at the leading and trailing edges of the COC plumes. This additional area of contamination presents a challenge to reach remedial end points within the regulatory deadline of August 2016 established in the VIRP.

Nevertheless, MNA has successfully attenuated the COCs in a substantial area encompassing the center of the baseline plume footprint, resulting in isolated pockets of plumes at the leading and trailing edges. In addition, recent sampling data indicates that some of the key indicator parameters at one well were not within the ideal range, potentially impacting the potential rates of degradation at a small portion within the leading edge of the CVOC plume. Based on these findings, it appears that the time to reach remedial points may extend beyond the August 2016 deadline.

VOPAK is currently in the process of updating the MNA process and developing a final remediation plan. Upon preparation and approval of the final remediation plan, VOPAK will submit an updated schedule and cost estimate.

SECTION

7

# 7.0 Summary of Hours

A monthly summary of hours invoiced for the aforementioned tasks during the period from September 2014 through February 2015 are summarized in Attachment C.

SECTION

8

# 8.0 References


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EIC, 2012a. *Report on First Quarter 2012 Monitored Natural Attenuation (MNA) Ground Water Monitoring in CVOC/VOC Plumes, VOPAK Terminal Savannah Inc., Savannah, Georgia.* Savannah, Georgia, February 2012.

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State of Georgia (GA), 2011. *Water Wells Standard Act of 1985 O.C.G.A. § 12-5-120 (2011).* Atlanta, Georgia. October 29, 2010.

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# SEVENTH SEMI-ANNUAL PROGRESS REPORT

# TABLES

# Table 4-1: October 2014 Well Gauging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | TOC Elevation* (ft.) | DTP (ft.) | DTW** (ft.) | Groundwater Surface Elevation (ft.) | Notes |
|---|---|---|---|---|---|
| IW-1R (1) | UNK | ND | 3.21 | NA | |
| IW-18 (1) | 10.07 | ND | 3.05 | 7.02 | vault filled with water, bailed out water prior to sampling |
| LAW-PZ-8R (1) | 9.22 | ND | 3.05 | 6.17 | |
| MW-14 (2) | 8.86 | ND | 6.06 | 2.80 | |
| MW-16 (1) | 17.01 | ND | 12.31 | 4.70 | pressure under cap |
| MW-17R (1) | 15.89 | ND | 11.31 | 4.58 | |
| MW-18R (1) | 14.12 | ND | 6.54 | 7.58 | |
| MW-19 (1) | 14.91 | ND | 6.96 | 7.95 | |
| MW-23 (1) | 10.39 | ND | 4.76 | 5.63 | |
| MW-24R (1) | 11.81 | ND | 5.65 | 6.16 | |
| MW-25 (1) | 14.76 | ND | 6.80 | 7.96 | black particulates on probe after gauging |
| MW-26R (1) | 10.59 | ND | 2.92 | 7.67 | |
| MW-27 (1) | 9.38 | ND | 3.93 | 5.45 | |
| MW-28 (1) | UNK | ND | 3.90 | NA | DTB = 14.05 ft., soft bottom |
| MW-29 (0.75) | 11.73 | ND | 5.82 | 5.91 | |
| MW-30 (2) | 11.23 | ND | 4.95 | 6.28 | high initial VOC air concentration (15 ppm) |
| MW-31 (2) | 9.67 | ND | 4.56 | 5.11 | |
| MW-32 (2) | 11.70 | ND | 6.10 | 5.60 | |
| MW-33 (2) | 8.96 | ND | 2.48 | 6.48 | high initial VOC air concentration (12.6 ppm) |
| MW-34 (2) | 10.81 | ND | 3.12 | 7.69 | well vault missing two bolts |
| MW-35 (2) | 10.40 | ND | 5.49 | 4.91 | |
| MW-36 (2) | 10.42 | ND | 6.71 | 3.71 | |
| MW-37 (2) | 11.57 | ND | 3.80 | 7.77 | |
| PAN-MW-9 (2) | 12.59 | ND | 6.18 | 6.41 | wasp's nest necessitated spraying insecticide prior to opening cap |
| PAN-MW-10 (2) | 13.81 | ND | 9.44 | 4.37 | |

**Notes:**
ID = Identity
TOC = Top of Casing
UNK = unknown
NM = Not Measured

ND = Not Detected

DTB = Depth to Bottom

* TOC elevations are based on well surveys conducted by EMC Engineering on June 30, 2011, January 24, 2013, and on January 20, 2014 and are of the NGVD 29 Datum convention

** DTW measurements were recorded by EIC from 10/13/2014 to 10/17/2014 prior to purging using a Solinst Oil/Water Interface Meter (probe), Model: 122

MW-28 located on 10/16/2014

# Table 4-2: October 2014 Well Purging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Date of Purge | Purge Time (minutes) | Total Purge Volume (mL) | Average Purge Rate (mL/minute) | Initial Tubing Intake Depth below TOC* (ft.) | Final Tubing Intake Depth below TOC (ft.) |
|---|---|---|---|---|---|---|
| IW-1R (1) | 10/17/2014 | 25 | 2,500 | 100 | 14.0 | 14.0 |
| IW-18 (1) | 10/17/2014 | 35 | 1,580 | 45 | 15.0 | 15.0 |
| LAW-PZ-8R (1) | 10/17/2014 | 31 | 1,500 | 48 | 6.5 | 6.5 |
| MW-14 (2) | 10/13/2014 | 20 | 1,500 | 75 | 45.0 | 45.0 |
| MW-16 (1) | 10/15/2014 | 29 | 1,400 | 48 | 13.0 | 13.8 |
| MW-17R (1) | 10/16/2014 | 25 | 1,060 | 42 | 17.0 | 17.0 |
| MW-18R (1) | 10/14/2014 | 45 | 6,500 | 144 | 11.5 | 11.5 |
| MW-19 (1) | 10/13/2014 | 25 | 3,760 | 150 | 13.0 | 13.0 |
| MW-23 (1) | 10/13/2014 | 26 | 2,720 | 105 | 8.4 | 8.4 |
| MW-24R (1) | 10/14/2014 | 47 | 4,340 | 92 | 13.5 | 14.5 |
| MW-25 (1) | 10/13/2014 | 25 | 3,680 | 147 | 14.0 | 14.0 |
| MW-26R (1) | 10/15/2014 | 21 | 2,630 | 125 | 9.5 | 9.5 |
| MW-27 (1) | 10/13/2014 | 25 | 1,480 | 59 | 10.5 | 10.5 |
| MW-28 (1) | 10/17/2014 | 27 | 1,360 | 50 | 9.0 | 9.0 |
| MW-29 (0.75) | 10/15/2014 | 25 | 1,680 | 67 | 18.0 | 18.0 |
| MW-30 (2) | 10/15/2014 | 39 | 7,120 | 183 | 10.5 | 10.5 |
| MW-31 (2) | 10/13/2014 | 25 | 3,880 | 155 | 15.0 | 15.0 |
| MW-32 (2) | 10/17/2014 | 21 | 2,100 | 100 | 11.0 | 11.0 |
| MW-33 (2) | 10/14/2015 | 65 | 11,000 | 169 | 10.0 | 10.0 |
| MW-34 (2) | 10/16/2014 | 36 | 5,040 | 140 | 11.0 | 11.0 |
| MW-35 (2) | 10/16/2014 | 30 | 2,000 | 67 | 10.0 | 10.0 |
| MW-36 (2) | 10/17/2014 | 10 | 1,080 | 108 | 12.0 | 12.0 |
| MW-37 (2) | 10/16/2014 | 36 | 4,420 | 123 | 10.0 | 10.0 |
| PAN-MW-9 (2) | 10/15/2014 | 25 | 1,960 | 78 | 10.5 | 10.5 |
| PAN-MW-10 (2) | 10/15/2014 | 25 | 3,800 | 152 | 12.5 | 12.5 |

**Notes:**

ID = Identity

mL = Milliliter

TOC = Well Top of Casing

* During well purging, the Teflon-lined tubing was lowered as needed when the water level fell to the depth of the intake, causing air to be recovered.

**Table 4-3: Groundwater Natural Attenuation Parameters**
**VOPAK Terminal Savannah, Savannah, GA**

| Wells | IW-1R | IW-18 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18 / MW-18R | MW-19 | MW-20 | MW-21 | MW-22 / MW-22R | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-28 | MW-29 | MW-30 | MW-31 | MW-32 | MW-33 | MW-34 | MW-35 | MW-36 | MW-37 | PAN MW-9 | PAN-MW-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameter: pH** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NI | NI | NS | 7.54 | 8.18 | 5.57 | 3.71 | NS | 6.40 | 6.17 | NS | 4.98 | 6.88 | 4.87 | NS | 4.24 | 5.81 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 5.64 | 6.29 |
| Oct-03 | NI | NI | 5.66 | 6.60 | 6.97 | 5.27 | 3.99 | NS | 6.15 | 6.40 | 4.03 | 3.94 | 6.35 | 4.70 | 6.21 | 4.35 | 5.62 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 4.43 | 6.42 |
| Mar-04 | NI | NI | NS | NS | NS | NS | 3.72 | 3.95 | NS | NS | NS | 4.09 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 5.04 | NS |
| May-05 | NI | NS | NS | NS | NS | NS | NS | NS | NS | NS | 4.45 | 4.23 | NS | NS | NS | 4.09 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 5.49 | NS |
| Aug-05 | NI | NS | NS | NS | NS | NS | NS | NS | NS | NS | 2.88 | 2.74 | NS | NS | NS | 2.60 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 3.54 | NS |
| Jun-06 | NI | NS | NS | 7.48 | 7.63 | 5.60 | 4.93 | 4.05 | NS | NS | 4.87 | 4.35 | NS | 5.23 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 4.63 | NS |
| Oct-06 | NS | NS | 4.80 | 8.90 | 11.10 | 6.40 | 5.20 | 4.10 | NS | NS | 4.60 | 3.67 | NS | 5.20 | NS | 5.30 | NS | NS | 5.80 | NI | NI | NI | NI | NI | NI | NI | NI | 5.11 | NS |
| Dec-06 | NS | NS | 5.38 | 6.67 | 7.15 | 5.45 | 5.95 | 4.45 | NS | NS | 4.61 | 4.04 | NS | 4.58 | NS | 5.21 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 4.52 | NS |
| Mar-07 | NS | NS | 5.41 | 7.09 | 7.39 | 5.47 | 5.91 | 4.34 | NS | NS | 4.75 | 4.01 | NS | 4.35 | NS | 5.65 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 4.87 | NS |
| Sep-07 | NS | NS | 4.92 | 7.44 | 7.20 | 5.52 | 6.08 | 4.33 | 6.12 | NS | 4.67 | NS | 6.63 | 4.47 | 6.17 | 5.68 | 6.17 | NS | 4.49 | NI | NI | NI | NI | NI | NI | NI | NI | 4.87 | 6.65 |
| May-08 | NS | NS | 4.62 | 6.60 | NS | 5.27 | 5.61 | 4.27 | NS | NS | NS | 2.44 | NS | 3.74 | NS | 4.94 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 3.39 | NS |
| Dec-08 | NS | NS | 4.38 | 7.38 | NS | 4.65 | 5.94 | 3.88 | NS | NS | NS | 4.82 | NS | 4.08 | NS | 5.84 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 4.24 | NS |
| Apr-09 | NS | NS | 4.26 | 6.94 | 6.53 | 5.29 | NS | 3.38 | 5.47 | NS | NS | 4.83 | 6.09 | 4.29 | 5.71 | 4.70 | 5.99 | NS | 4.32 | NI | NI | NI | NI | NI | NI | NI | NI | 3.49 | 5.48 |
| Sep-09 | NS | NS | 5.41 | 6.55 | NS | 5.87 | 5.98 | 4.89 | NS | NS | NS | 5.16 | NS | 4.54 | NS | 5.95 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 4.21 | NS |
| Apr-10 | NS | NS | 5.50 | NL | 6.05 | 6.01 | 5.99 | 5.48 | 6.07 | NL | NL | NU | 6.46 | 5.37 | 6.19 | 5.99 | 6.34 | NS | 5.21 | NI | NI | NI | NI | NI | NI | NI | NI | 5.17 | 6.13 |
| Oct-11 | NS | 4.43 | 5.51 | NL | NU | 4.91 | 6.10 | 4.69 | 6.30 | NL | NL | NU | 6.67 | 4.51 | 6.29 | 5.83 | 6.42 | NS | 4.56 | 4.98 | 6.69 | 5.30 | 5.40 | 4.50 | NI | NI | NI | 5.40 | 6.32 |
| Jan-12 | NS | 4.15 | 5.13 | NL | NU | 5.08 | 5.51 | 4.65 | 5.68 | NL | NL | NU | 6.01 | 4.48 | 5.62 | 5.40 | 5.83 | NS | 4.36 | 4.66 | 5.96 | 4.72 | 5.30 | 4.35 | NI | NI | NI | 3.96 | 5.72 |
| Apr-12 | NS | 4.66 | 5.83 | NL | NU | 5.99 | 6.16 | 4.56 | 6.25 | NL | NL | NU | 6.69 | 4.69 | 6.33 | 5.93 | 6.56 | 4.76 | 4.76 | 5.17 | 6.69 | 5.30 | 5.61 | 4.62 | NI | NI | NI | 4.24 | 6.24 |
| Jul-12 | NS | 4.67 | 5.86 | NL | NU | 5.58 | 6.19 | 4.46 | 6.17 | NL | NL | NU | 6.64 | 4.62 | 6.26 | 5.97 | 6.34 | 4.76 | 4.73 | 5.24 | 6.66 | 5.69 | 5.52 | 4.51 | NI | NI | NI | 5.27 | 6.35 |
| Oct-12 | NS | 4.48 | 5.60 | NL | NU | 5.75 | 6.12 | 5.13 | 6.02 | NL | NL | NU | 6.55 | 4.57 | 6.15 | 5.74 | 6.33 | NS | 4.76 | 4.79 | 6.52 | 4.86 | 5.47 | 4.20 | NI | NI | NI | 4.38 | 6.02 |
| Jan-13 | NS | 4.32 | 5.48 | NS | NU | 4.61 | 6.06 | 4.81 | 5.89 | NL | NL | NU | 6.55 | 4.48 | 5.91 | 5.43 | 6.03 | NS | 4.45 | 4.68 | 6.44 | 4.66 | 5.26 | 4.29 | NI | NI | NI | 4.14 | 5.82 |
| Apr-13 | NS | 4.50 | 5.55 | NS | NU | 5.75 | 6.16 | 4.01 | 5.84 | NL | NL | NU | 6.18 | 4.57 | 6.01 | 5.73 | 5.98 | NS | 4.57 | 4.69 | 6.47 | 4.75 | 5.27 | 4.24 | NI | NI | NI | 4.41 | 6.11 |
| Jul-13 | NS | 4.45 | 5.40 | NS | NU | 5.30 | 5.94 | 4.30 | 6.14 | NL | NL | NU | 6.33 | 4.35 | 6.01 | 5.50 | 5.81 | NS | 4.37 | 4.33 | 6.26 | 4.75 | 5.24 | 4.14 | NI | NI | NI | 4.96 | 6.20 |
| Oct-13 | NS | 4.55 | 5.63 | 7.31 | NU | 5.57 | 6.15 | 4.50 | 6.10 | NL | NL | NU | 6.51 | 4.56 | 6.08 | 5.65 | 6.11 | NS | 4.63 | 4.44 | NS | 4.89 | 5.42 | 4.47 | NI | NI | NI | 4.93 | 6.08 |
| Jan-14 | NS | 4.99 | 6.04 | 7.42 | NU | 5.82 | 6.26 | 4.19 | 6.53 | NL | NL | NU | 6.56 | 4.71 | 6.18 | 5.88 | 6.25 | NS | 4.72 | 4.62 | 6.62 | 4.76 | 5.45 | 4.48 | 6.77 | 6.51 | 5.34 | 4.98 | 6.17 |
| Apr-14 | 4.48 | 4.66 | 6.15 | 7.36 | NU | 5.78 | 6.31 | 4.45 | 6.25 | NL | NL | NU | 6.42 | 4.88 | 6.17 | 6.01 | 6.20 | NS | 4.48 | 4.20 | 6.54 | 4.65 | 5.63 | 4.63 | 6.78 | 6.48 | 5.52 | 5.01 | 6.60 |
| Oct-14 | 4.19 | 4.78 | 5.65 | 7.40 | NU | 5.87 | 6.03 | 4.42 | 6.32 | NL | NL | NU | 6.47 | 4.79 | 6.06 | 5.79 | 6.31 | 6.39 | 4.92 | 4.45 | 6.58 | 5.47 | 5.34 | 4.43 | 6.78 | 6.40 | 5.56 | 5.00 | 5.94 |
| **Parameter: Temperature (ºC)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NI | NI | NS | 23.92 | 30.14 | 24.33 | 25.80 | NS | 27.84 | 23.99 | NS | 25.19 | 25.27 | 22.71 | NS | 26.41 | 26.25 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 26.09 | 26.90 |
| Mar-04 | NI | NI | NS | NS | NS | NS | 21.17 | 19.57 | NS | NS | NS | 18.20 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 17.30 | NS |
| May-05 | NI | NS | NS | NS | NS | NS | NS | NS | NS | NS | 21.40 | 20.91 | NS | NS | NS | 23.00 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 21.35 | NS |
| Aug-05 | NI | NS | NS | NS | NS | NS | NS | NS | NS | NS | 25.06 | 25.12 | NS | NS | NS | 26.79 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 23.79 | NS |
| Jun-06 | NI | NS | NS | 22.76 | 24.08 | 24.45 | 26.75 | 27.12 | NS | NS | 22.97 | 24.20 | NS | 24.20 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 22.45 | NS |
| Oct-06 | NS | NS | 23.00 | 21.00 | 21.00 | 23.00 | 24.73 | 26.16 | NS | NS | 23.00 | 24.60 | NS | 21.00 | NS | 26.00 | NS | NS | 20.00 | NI | NI | NI | NI | NI | NI | NI | NI | 24.39 | NS |
| Dec-06 | NS | NS | 20.05 | 22.01 | 23.60 | 22.16 | 23.72 | 21.80 | NS | NS | 22.98 | 22.02 | NS | 20.63 | NS | 21.93 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 21.54 | NS |
| Mar-07 | NS | NS | 18.71 | 21.71 | 22.29 | 19.95 | 24.45 | 19.22 | NS | NS | 20.44 | 20.68 | NS | 18.79 | NS | 20.68 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 19.21 | NS |
| Sep-07 | NS | NS | 28.90 | 21.93 | 25.83 | 24.99 | 28.95 | 27.37 | 27.84 | NS | 27.46 | NS | 26.80 | 23.67 | 28.31 | 31.12 | 27.03 | NS | 24.67 | NI | NI | NI | NI | NI | NI | NI | NI | 24.78 | 27.40 |
| May-08 | NS | NS | 25.70 | 20.77 | NS | 20.15 | 25.25 | 22.82 | NS | NS | NS | 22.78 | NS | 20.65 | NS | 24.69 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 19.38 | NS |
| Dec-08 | NS | NS | 21.05 | 20.71 | NS | 21.40 | 22.06 | 21.81 | NS | NS | NS | 20.91 | NS | NS | NS | 22.22 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 19.97 | NS |
| Apr-09 | NS | NS | 22.14 | 21.34 | 21.84 | 20.06 | 21.40 | 19.76 | 18.93 | NS | NS | 20.94 | 17.84 | 18.90 | 21.24 | 21.08 | 18.92 | NS | 20.77 | NI | NI | NI | NI | NI | NI | NI | NI | 18.49 | 19.94 |
| Sep-09 | NS | NS | 30.96 | 22.64 | NS | 27.23 | 26.48 | 27.32 | NS | NS | NS | 27.10 | NS | 25.60 | NS | 29.67 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 26.51 | NS |
| Apr-10 | NS | NS | 24.02 | NL | 24.13 | 20.48 | 23.17 | 21.14 | 20.64 | NL | NL | NU | 20.27 | 19.16 | 21.32 | 22.57 | 20.74 | NS | 19.08 | NI | NI | NI | NI | NI | NI | NI | NI | 20.28 | 21.43 |
| Oct-11 | NS | 29.24 | 26.05 | NL | NU | 22.08 | 23.97 | 26.72 | 24.54 | NL | NL | NU | 23.08 | 23.68 | 25.30 | 27.49 | 25.44 | NS | 24.45 | 25.58 | 23.18 | 26.20 | 23.80 | 25.72 | NI | NI | NI | 23.70 | 24.89 |
| Jan-12 | NS | 22.95 | 20.79 | NL | NU | 18.59 | 23.41 | 20.81 | 22.22 | NL | NL | NU | 21.82 | 17.70 | 22.63 | 21.07 | 22.32 | NS | 19.03 | 20.54 | 22.01 | 22.40 | 20.25 | 19.47 | NI | NI | NI | 19.65 | 20.89 |
| Apr-12 | NS | 25.44 | 23.09 | NL | NU | 23.68 | 27.34 | 25.84 | 24.85 | NL | NL | NU | 20.29 | 22.30 | 26.44 | 27.38 | 20.82 | 24.17 | 24.17 | 27.17 | 20.46 | 25.45 | 22.48 | 22.60 | NI | NI | NI | 23.17 | 26.64 |
| Jul-12 | NS | 34.55 | 33.91 | NL | NU | 33.48 | 35.60 | 32.97 | 29.91 | NL | NL | NU | 28.20 | 29.86 | 32.51 | 34.06 | 30.01 | 24.17 | 27.95 | 33.00 | 28.98 | 32.94 | 28.74 | 30.92 | NI | NI | NI | 31.11 | 31.53 |
| Oct-12 | NS | 24.12 | 24.30 | NL | NU | 14.18 | 21.21 | 22.29 | 19.30 | NL | NL | NU | 21.20 | 17.54 | 24.53 | 25.27 | 21.90 | NS | 17.61 | 24.90 | 19.79 | 24.21 | 22.39 | 18.35 | NI | NI | NI | 21.02 | 25.53 |
| Jan-13 | NS | 22.72 | 20.33 | NS | NU | 15.61 | 20.11 | 19.33 | 14.72 | NL | NL | NU | 17.83 | 17.17 | 20.67 | 19.61 | 18.05 | NS | 14.61 | 20.39 | 18.44 | 21.17 | 18.50 | 21.00 | NI | NI | NI | 16.00 | 20.17 |
| Apr-13 | NS | 25.65 | 23.34 | NS | NU | 25.27 | 25.08 | 20.10 | 22.19 | NL | NL | NU | 21.27 | 18.95 | 22.59 | 23.25 | 22.64 | NS | 19.12 | 21.22 | 20.72 | 21.16 | 24.40 | 22.15 | NI | NI | NI | 26.36 | 20.75 |
| Jul-13 | NS | 26.51 | 29.49 | NS | NU | 24.75 | 23.31 | 25.72 | 24.66 | NL | NL | NU | 23.57 | 25.12 | 24.59 | 26.51 | 24.25 | NS | 22.57 | 26.07 | 21.95 | 25.16 | 23.78 | 24.98 | NI | NI | NI | 27.45 | 25.66 |
| Oct-13 | NS | 27.45 | 31.52 | 22.20 | NU | 22.61 | 27.23 | 27.71 | 26.66 | NL | NL | NU | 27.75 | 21.27 | 26.99 | 28.69 | 27.73 | NS | 27.40 | 29.00 | NS | 27.49 | 29.61 | 27.35 | NI | NI | NI | 25.93 | 23.33 |
| Jan-14 | NS | 16.80 | 17.34 | 19.44 | NU | 16.07 | 18.20 | 15.45 | 18.05 | NL | NL | NU | 19.01 | 14.87 | 18.94 | 20.91 | 22.03 | NS | 17.40 | 19.84 | 21.20 | 19.47 | 18.52 | 19.32 | 17.22 | 20.99 | 17.79 | 15.11 | 19.39 |
| Apr-14 | 22.82 | 19.47 | 22.40 | 19.70 | NU | 19.10 | 19.79 | 21.43 | 15.81 | NL | NL | NU | 18.01 | 17.75 | 16.47 | 20.68 | 18.79 | NS | 17.55 | 20.69 | 18.72 | 20.13 | 18.44 | 21.49 | 20.42 | 21.14 | 19.07 | 16.91 | 19.95 |
| Oct-14 | 26.82 | 18.73 | 23.70 | 26.35 | NU | 26.45 | 24.53 | 27.53 | 28.14 | NL | NL | NU | 27.51 | 24.24 | 27.92 | 29.19 | 26.36 | 24.35 | 22.46 | 26.40 | 24.87 | 31.06 | 25.57 | 25.74 | 26.01 | 28.86 | 23.14 | 25.33 | 24.19 |

**Table 4-3: Groundwater Natural Attenuation Parameters**
**VOPAK Terminal Savannah, Savannah, GA**

| Wells | IW-1R | IW-18 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18 / MW-18R | MW-19 | MW-20 | MW-21 | MW-22 / MW-22R | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-28 | MW-29 | MW-30 | MW-31 | MW-32 | MW-33 | MW-34 | MW-35 | MW-36 | MW-37 | PAN MW-9 | PAN-MW-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameter: Dissolved Oxygen (mg/L)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NI | NI | NS | 0.39 | 0.70 | 0.79 | 0.36 | NS | 0.49 | 1.44 | NS | 0.57 | 0.35 | 0.55 | NS | 2.14 | 0.33 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 0.51 | 0.45 |
| Mar-04 | NI | NI | NS | NS | NS | NS | 0.19 | 0.17 | NS | NS | NS | 0.17 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 0.13 | NS |
| May-05 | NI | NS | NS | NS | NS | NS | NS | NS | NS | NS | 1.73 | 0.43 | NS | NS | NS | 0.36 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 0.11 | NS |
| Aug-05 | NI | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.16 | 0.42 | NS | NS | NS | 0.12 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 0.11 | NS |
| Jun-06 | NI | NS | NS | 22.40 | 3.50 | 7.18 | 2.14 | 1.53 | NS | NS | 0.81 | 1.04 | NS | 7.86 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 0.30 | NS |
| Oct-06 | NS | NS | NS | 2.80 | 4.40 | 6.50 | 1.86 | 0.88 | NS | NS | 2.70 | 0.81 | NS | 5.00 | NS | 1.60 | NS | NS | 11.20 | NI | NI | NI | NI | NI | NI | NI | NI | 3.75 | NS |
| Dec-06 | NS | NS | 0.68 | 6.04 | 3.76 | 1.49 | 1.56 | 1.09 | NS | NS | 0.41 | 3.15 | NS | 2.03 | NS | 0.69 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 0.14 | NS |
| Mar-07 | NS | NS | 1.48 | 2.98 | 4.39 | 6.13 | 11.22 | 0.42 | NS | NS | 7.35 | 2.25 | NS | 114.19 | NS | 0.70 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 19.69 | NS |
| Sep-07 | NS | NS | 0.92 | 5.35 | 5.80 | 0.79 | 3.64 | 1.24 | 1.88 | NS | 2.38 | NS | 2.11 | 0.54 | 1.49 | 1.46 | 1.13 | NS | 2.59 | NI | NI | NI | NI | NI | NI | NI | NI | 4.92 | 4.23 |
| May-08 | NS | NS | 1.07 | 2.38 | NS | 5.71 | 2.47 | 2.32 | NS | NS | NS | 0.89 | NS | 1.63 | NS | 2.15 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 4.02 | NS |
| Dec-08 | NS | NS | 0.41 | 1.61 | NS | 2.00 | 3.31 | 1.10 | NS | NS | NS | 5.68 | NS | 2.53 | NS | 0.69 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 34.00 | NS |
| Apr-09 | NS | NS | 0.24 | 3.89 | 0.84 | 3.22 | 0.94 | 1.34 | 0.64 | NS | NS | 1.32 | 0.68 | 0.83 | 0.54 | 0.46 | 0.82 | NS | 1.16 | NI | NI | NI | NI | NI | NI | NI | NI | 0.62 | 0.38 |
| Sep-09 | NS | NS | 1.88 | 2.44 | NS | 120.00 | 3.02 | 1.24 | NS | NS | NS | 36.00 | NS | 1.00 | NS | 107.00 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 1.38 | NS |
| Apr-10 | NS | NS | 1.38 | NL | 1.75 | 1.81 | 1.49 | 9.00 | 2.03 | NL | NL | NU | 1.98 | 2.99 | 2.09 | 1.86 | 3.42 | NS | 2.20 | NI | NI | NI | NI | NI | NI | NI | NI | 2.98 | 1.83 |
| Oct-11 | NS | 0.00 | 0.00 | NL | NU | 0.00 | 3.69 | 0.00 | 1.14 | NL | NL | NU | 0.00 | 0.00 | 0.00 | 0.00 | 3.39 | 0.00 | 0.00 | 0.00 | 5.10 | 0.32 | 0.00 | 0.43 | NI | NI | NI | 0.79 | 0.00 |
| Jan-12 | NS | 0.00 | 0.33 | NL | NU | 0.05 | 0.21 | 0.07 | 0.08 | NL | NL | NU | 0.51 | 0.00 | 0.00 | 0.00 | 7.28 | NS | 0.00 | 0.00 | 0.07 | 1.17 | 0.00 | 0.03 | NI | NI | NI | 3.62 | 0.00 |
| Apr-12 | NS | 0.07 | 0.34 | NL | NU | 0.59 | 0.38 | 0.15 | 0.16 | NL | NL | NU | 0.37 | 0.56 | 0.20 | 0.23 | 7.33 | NS | 1.29 | 0.25 | 0.33 | 0.17 | 0.93 | 0.03 | NI | NI | NI | 2.27 | 1.62 |
| Jul-12 | NS | 0.13 | 0.00 | NL | NU | 1.77 | 0.74 | 0.34 | 5.04 | NL | NL | NU | 1.70 | 0.04 | 0.26 | 0.29 | 0.90 | NS | 0.00 | 0.00 | 0.76 | 1.78 | 0.38 | 3.82 | NI | NI | NI | 0.47 | 0.52 |
| Oct-12 | NS | 0.83 | 1.19 | NL | NU | 1.59 | 5.36 | 1.01 | 2.06 | NL | NL | NU | 1.36 | 1.33 | 1.13 | 0.86 | 7.69 | NS | 8.36 | 3.15 | 1.54 | 3.99 | 1.42 | 2.21 | NI | NI | NI | 1.73 | 1.00 |
| Jan-13 | NS | 2.10 | 0.40 | NS | NU | 8.36 | 7.42 | 0.54 | 0.90 | NL | NL | NU | 4.18 | 0.59 | 4.26 | 0.53 | 7.46 | NS | 0.81 | 0.56 | 0.55 | 0.63 | 0.52 | 0.65 | NI | NI | NI | 1.58 | 0.80 |
| Apr-13 | NS | 0.46 | 0.46 | NS | NU | 0.61 | 2.84 | 0.68 | 0.57 | NL | NL | NU | 0.72 | 0.70 | 0.72 | 0.67 | 5.64 | NS | 1.14 | 0.77 | 0.94 | 0.84 | 0.43 | 0.66 | NI | NI | NI | 0.59 | 1.39 |
| Jul-13 | NS | 0.50 | 0.53 | NS | NU | 1.09 | 2.72 | 0.55 | 0.57 | NL | NL | NU | 0.99 | 0.58 | 0.74 | 0.54 | 0.78 | NS | 0.70 | 0.61 | 0.72 | 0.56 | 2.92 | 0.82 | NI | NI | NI | 0.54 | 2.81 |
| Oct-13 | NS | 0.47 | 0.36 | 0.73 | NU | 0.64 | 2.09 | 0.84 | 0.82 | NL | NL | NU | 0.76 | 0.53 | 1.18 | 0.61 | 1.15 | NS | 0.78 | 0.68 | NS | 0.95 | 0.74 | 1.29 | NI | NI | NI | 1.87 | 1.87 |
| Jan-14 | NS | 0.71 | 0.86 | 1.74 | NU | 1.16 | 1.62 | 2.96 | 3.19 | NL | NL | NU | 1.72 | 1.10 | 1.23 | 1.77 | 1.48 | NS | 0.66 | 1.66 | 1.14 | 0.63 | 1.35 | 1.37 | 1.00 | 0.83 | 1.33 | 1.10 | 2.29 |
| Apr-14 | 0.49 | 0.49 | 0.49 | 0.59 | NU | 0.86 | 1.68 | 0.86 | 0.75 | NL | NL | NU | 0.73 | 0.45 | 0.74 | 0.69 | 1.36 | NS | 0.40 | 0.59 | 0.84 | 1.20 | 0.53 | 3.99 | 0.66 | 0.83 | 1.21 | 0.55 | 3.70 |
| Oct-14 | 0.51 | 0.80 | 0.51 | 0.88 | NU | 2.25 | 0.99 | 0.40 | 0.96 | NL | NL | NU | 0.54 | 0.45 | 0.54 | 0.58 | 1.06 | 1.85 | 1.41 | 0.47 | 0.61 | 0.46 | 0.31 | 0.68 | 0.78 | 0.63 | 2.03 | 0.55 | 1.91 |
| **Parameter: Specific Conductivity (mS/cm)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NI | NI | NS | 0.373 | 0.384 | 0.302 | 4.170 | NS | 0.423 | 0.292 | NS | 0.649 | 0.532 | 0.317 | NS | 0.227 | 0.217 | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | 0.341 | 0.404 |
| Mar-04 | NI | NI | NS | NS | NS | NS | 2.860 | 0.310 | NS | NS | NS | 0.570 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 0.340 | NS |
| May-05 | NI | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.145 | 0.377 | NS | NS | NS | 23.000 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 0.310 | NS |
| Aug-05 | NI | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.215 | 0.483 | NS | NS | NS | 0.324 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 0.326 | NS |
| Jun-06 | NI | NS | NS | 0.470 | 0.481 | 0.319 | 2.587 | 0.308 | NS | NS | 12.525 | 3.515 | NS | 0.262 | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 0.585 | NS |
| Oct-06 | NS | NS | 0.001 | 0.400 | 0.410 | 0.310 | 0.429 | 0.235 | NS | NS | 0.500 | 6.943 | NS | 0.340 | NS | 0.460 | NS | NS | 0.740 | NI | NI | NI | NI | NI | NI | NI | NI | 0.575 | NS |
| Dec-06 | NS | NS | 0.609 | 0.451 | 0.217 | 0.322 | 0.790 | 0.122 | NS | NS | 0.408 | 5.162 | NS | 0.743 | NS | 0.476 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 0.490 | NS |
| Mar-07 | NS | NS | 0.618 | 0.465 | 0.480 | 0.419 | 0.872 | 0.150 | NS | NS | 0.854 | 5.809 | NS | 1.303 | NS | 0.443 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 0.401 | NS |
| Sep-07 | NS | NS | 0.333 | 0.451 | 0.134 | 0.407 | 0.726 | 0.212 | 0.209 | NS | 0.468 | NS | 0.220 | 1.554 | 0.300 | 0.444 | 0.487 | NS | 0.694 | NI | NI | NI | NI | NI | NI | NI | NI | 1.440 | 0.560 |
| May-08 | NS | NS | 0.809 | 0.454 | NS | 0.382 | 0.857 | 0.296 | NS | NS | NS | 4.940 | NS | 0.996 | NS | 0.519 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 1.004 | NS |
| Dec-08 | NS | NS | 0.606 | 0.406 | NS | 0.418 | 0.525 | 0.270 | NS | NS | NS | 1.279 | NS | 0.406 | NS | 0.395 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 1.282 | NS |
| Apr-09 | NS | NS | 0.779 | 0.442 | 1.100 | 0.486 | 0.579 | 0.250 | 0.624 | NS | NS | 1.530 | 1.049 | 0.629 | 0.397 | 0.810 | 0.626 | NS | 0.618 | NI | NI | NI | NI | NI | NI | NI | NI | 1.053 | 0.334 |
| Sep-09 | NS | NS | 0.718 | 0.480 | NS | 0.572 | 0.513 | 0.273 | NS | NS | NS | 1.074 | NS | 0.548 | NS | 0.647 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 0.947 | NS |
| Apr-10 | NS | NS | 0.824 | NL | 0.615 | 0.612 | 0.566 | 0.291 | 0.941 | NL | NL | NU | 1.126 | 0.649 | 0.524 | 0.674 | 1.087 | NS | 2.078 | NI | NI | NI | NI | NI | NI | NI | NI | 1.816 | 0.394 |
| Oct-11 | NS | 1.490 | 0.930 | NL | NU | 0.397 | 0.514 | 0.305 | 0.824 | NL | NL | NU | 1.200 | 0.534 | 0.699 | 0.391 | 0.639 | NS | 1.460 | 0.192 | 1.340 | 1.080 | 0.559 | 0.208 | NI | NI | NI | 0.407 | 0.530 |
| Jan-12 | NS | 1.390 | 0.621 | NL | NU | 0.302 | 0.392 | 0.194 | 0.602 | NL | NL | NU | 0.759 | 0.335 | 0.671 | 0.725 | 0.660 | NS | 1.480 | 0.148 | 0.992 | 0.858 | 0.418 | 0.160 | NI | NI | NI | 0.835 | 0.253 |
| Apr-12 | NS | 1.540 | 0.901 | NL | NU | 0.451 | 0.642 | 0.265 | 0.887 | NL | NL | NU | 1.130 | 0.525 | 1.060 | 0.660 | 0.817 | NS | 1.620 | 0.218 | 1.310 | 1.060 | 0.519 | 0.206 | NI | NI | NI | 1.170 | 0.436 |
| Jul-12 | NS | 1.360 | 0.682 | NL | NU | 0.306 | 0.404 | 0.243 | 0.686 | NL | NL | NU | 0.846 | 0.426 | 0.814 | 0.350 | 0.407 | NS | 1.430 | 0.191 | 0.889 | 0.687 | 0.393 | 0.150 | NI | NI | NI | 0.404 | 0.422 |
| Oct-12 | NS | 1.610 | 0.789 | NL | NU | 0.492 | 0.398 | 0.319 | 0.962 | NL | NL | NU | 1.050 | 0.514 | 0.877 | 0.522 | 0.774 | NS | 1.830 | 0.200 | 1.190 | 1.250 | 0.511 | 0.207 | NI | NI | NI | 0.997 | 0.352 |
| Jan-13 | NS | 1.520 | 0.902 | NS | NU | 0.288 | 0.350 | 0.295 | 1.020 | NL | NL | NU | 0.980 | 0.458 | 1.460 | 1.100 | 0.904 | NS | 1.750 | 0.212 | 1.120 | 1.260 | 0.455 | 0.201 | NI | NI | NI | 1.180 | 0.344 |
| Apr-13 | NS | 1.370 | 0.881 | NS | NU | 0.517 | 0.268 | 0.286 | 0.961 | NL | NL | NU | 1.030 | 0.470 | 1.240 | 0.590 | 0.828 | NS | 1.640 | 0.272 | 1.020 | 1.200 | 0.384 | 0.186 | NI | NI | NI | 0.875 | 0.444 |
| Jul-13 | NS | 1.070 | 1.060 | NS | NU | 0.538 | 0.310 | 0.338 | 1.060 | NL | NL | NU | 0.895 | 0.600 | 0.757 | 0.463 | 1.070 | NS | 1.740 | 0.292 | 1.170 | 1.150 | 0.487 | 0.209 | NI | NI | NI | 0.672 | 0.720 |
| Oct-13 | NS | 1.720 | 0.910 | 0.571 | NU | 0.528 | 0.280 | 0.319 | 0.950 | NL | NL | NU | 0.968 | 0.518 | 0.947 | 0.399 | 0.999 | NS | 1.710 | 0.327 | NS | 1.280 | 0.497 | 0.208 | NI | NI | NI | 0.670 | 0.451 |
| Jan-14 | NS | 0.876 | 0.939 | 0.561 | NU | 0.581 | 0.297 | 0.339 | 1.090 | NL | NL | NU | 1.110 | 0.513 | 0.773 | 0.653 | 0.893 | NS | 1.770 | 0.317 | 1.060 | 1.210 | 0.494 | 0.186 | 0.675 | 1.410 | 0.295 | 0.772 | 0.480 |
| Apr-14 | 0.609 | 1.240 | 0.890 | 0.546 | NU | 0.559 | 0.177 | 0.293 | 0.930 | NL | NL | NU | 1.170 | 0.469 | 0.767 | 0.665 | 0.870 | NS | 1.680 | 0.424 | 0.904 | 1.100 | 0.495 | 0.178 | 0.636 | 1.280 | 0.319 | 0.773 | 0.624 |
| Oct-14 | 0.665 | 1.070 | 0.963 | 0.505 | NU | 0.479 | 0.366 | 0.294 | 0.766 | NL | NL | NU | 1.020 | 0.452 | 0.923 | 0.325 | 0.827 | 0.352 | 1.490 | 0.298 | 0.877 | 1.170 | 0.430 | 0.183 | 0.622 | 1.340 | 0.362 | 0.606 | 0.496 |

**Table 4-3: Groundwater Natural Attenuation Parameters**
**VOPAK Terminal Savannah, Savannah, GA**

| Wells | IW-1R | IW-18 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18 / MW-18R | MW-19 | MW-20 | MW-21 | MW-22 / MW-22R | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-28 | MW-29 | MW-30 | MW-31 | MW-32 | MW-33 | MW-34 | MW-35 | MW-36 | MW-37 | PAN MW-9 | PAN-MW-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameter: ORP (mv)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NI | NI | NS | -153.0 | -164.0 | -26.0 | -22.0 | NS | 6.0 | 22.0 | NS | 16.0 | 134.0 | 178.0 | NS | 323.0 | 75.0 | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | -180.0 | -6.0 |
| Mar-04 | NI | NI | NS | NS | NS | NS | 67.7 | 233.9 | NS | NS | NS | 208.9 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 142.7 | NS |
| May-05 | NI | NS | NS | NS | NS | NS | NS | NS | NS | NS | 25.5 | 169.5 | NS | NS | NS | 231.6 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 66.9 | NS |
| Aug-05 | NI | NS | NS | NS | NS | NS | NS | NS | NS | NS | -18.1 | 146.1 | NS | NS | NS | 223.3 | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | -112.6 | NS |
| Jun-06 | NI | NS | NS | 44.7 | NS | 31.2 | 32.1 | 332.2 | NS | NS | -69.6 | 38.6 | NS | 78.4 | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | -21.6 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | -96.1 | 244.9 | NS | NS | NS | 85.2 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | -227.7 | NS |
| Dec-06 | NS | NS | -151.8 | -181.2 | -179.4 | -156.1 | -182.3 | -154.8 | NS | NS | -154.3 | -178.9 | NS | -146.4 | NS | -156.2 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | -184.4 | NS |
| Mar-07 | NS | NS | -203.2 | -81.5 | -189.1 | -63.3 | -156.3 | 226.3 | NS | NS | -187.8 | -87.0 | NS | -101.7 | NS | -204.5 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | -179.5 | NS |
| Sep-07 | NS | NS | -11.4 | 66.2 | -148.6 | -25.8 | -77.3 | 312.2 | 4.9 | NS | -62.7 | NS | -102.5 | 37.3 | -103.4 | -72.0 | 48.3 | NS | 48.1 | NI | NI | NI | NI | NI | NI | NI | NI | -29.6 | 103.3 |
| May-08 | NS | NS | 139.7 | 353.9 | NS | 60.0 | -26.5 | 317.0 | NS | NS | NS | 300.4 | NS | 199.9 | NS | 34.4 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 163.7 | NS |
| Dec-08 | NS | NS | -4.3 | -47.9 | NS | 23.1 | -50.3 | 338.7 | NS | NS | NS | -104.9 | NS | 120.2 | NS | -104.6 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 35.0 | NS |
| Apr-09 | NS | NS | 18.2 | 49.3 | -53.2 | 10.2 | -97.6 | 446.0 | -19.3 | NS | NS | -24.2 | -101.0 | 132.0 | -132.0 | -23.2 | 8.9 | NS | -31.3 | NI | NI | NI | NI | NI | NI | NI | NI | 91.8 | -23.5 |
| Sep-09 | NS | NS | -139.0 | -8.2 | NS | 59.6 | -89.4 | 81.3 | NS | NS | NS | -111.0 | NS | 120.0 | NS | -19.1 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | -119.0 | NS |
| Apr-10 | NS | NS | 48.7 | NL | -24.2 | 15.9 | -64.4 | 150.4 | -7.8 | NL | NL | NU | -74.0 | 118.0 | -102.0 | 42.8 | 18.2 | NS | -12.7 | NI | NI | NI | NI | NI | NI | NI | NI | 118.0 | -5.6 |
| Oct-11 | NS | 201 | 94 | NL | NU | 182 | 83 | 368 | 192 | NL | NL | NU | 159 | 237 | 41 | 86 | 176 | NS | 163 | 141 | 148 | 127 | 113 | 385 | NI | NI | NI | 99 | 183 |
| Jan-12 | NS | 78 | -45 | NL | NU | -11 | -72 | 290 | 71 | NL | NL | NU | -47 | 96 | -99 | -59 | 41 | NS | 19 | 18 | 4 | 36 | -43 | 232 | NI | NI | NI | 46 | 58 |
| Apr-12 | NS | 34 | -121 | NL | NU | -52 | -136 | 313 | 65 | NL | NL | NU | -53 | 77 | -120 | -119 | 5 | -64 | -64 | -145 | 0 | -98 | -110 | 197 | NI | NI | NI | -52 | 36 |
| Jul-12 | NS | 40 | -109 | NL | NU | -104 | -100 | 327 | 44 | NL | NL | NU | -73 | -1 | -113 | -66 | 24 | -64 | -92 | -135 | -15 | -57 | -137 | 223 | NI | NI | NI | -132 | 98 |
| Oct-12 | NS | 42 | -75 | NL | NU | -34 | -76 | 215 | 56 | NL | NL | NU | -22 | 85 | -110 | -81 | 6 | NS | -2 | -11 | -2 | -94 | -133 | 344 | NI | NI | NI | -18 | 95 |
| Jan-13 | NS | 44 | -84 | NS | NU | 7 | -93 | 3 | 41 | NL | NL | NU | -82 | 94 | -101 | -54 | 42 | NS | 26 | 17 | 34 | -29 | -47 | 248 | NI | NI | NI | 20 | 128 |
| Apr-13 | NS | 146 | 23 | NS | NU | -49 | -9 | -436 | 141 | NL | NL | NU | 52 | 70 | -51 | 20 | 150 | NS | -24 | 75 | 75 | -74 | -65 | 329 | NI | NI | NI | 32 | 223 |
| Jul-13 | NS | 72 | -46 | NS | NU | -1 | -28 | 369 | 29 | NL | NL | NU | -3 | 103 | -75 | -21 | 63 | NS | 91 | 108 | 19 | 81 | -5 | 259 | NI | NI | NI | 0 | 217 |
| Oct-13 | NS | 89 | -42 | 7.00 | NU | 22 | -19 | 223 | 23 | NL | NL | NU | -15 | 155 | -50 | 31 | 54 | NS | 105 | 146 | NS | 101 | 33 | 214 | NI | NI | NI | 71 | 199 |
| Jan-14 | NS | 32 | -73 | 9.00 | NU | 57 | 47 | 285 | -15 | NL | NL | NU | 31 | 87 | -33 | 43 | 25 | NS | 71 | 90 | 18 | 148 | 43 | 166 | 50 | -3 | 120 | 56 | 43 |
| Apr-14 | 47.00 | 52 | -86 | -108.00 | NU | -36 | -66 | 146 | 65 | NL | NL | NU | 8 | 47 | -59 | -50 | 79 | NS | 23 | 72 | 18 | 20 | -25 | 182 | -119 | -102 | 41 | -4 | -20 |
| Oct-14 | 58.00 | 20 | -72 | -61.00 | NU | -36 | -39 | 323 | 10 | NL | NL | NU | 78 | 48 | -80 | -45 | 69 | 63 | -39 | 1 | -15 | 32 | -61 | 233 | -122 | -108 | 15 | -80 | 163 |
| **Parameter: TOC (mg/L) Method: 9060A** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-03 | NI | NI | NS | NS | NS | NS | 430 | NS | NS | NS | NS | 13 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 16 | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | 523 | 3 | NS | NS | NS | 9 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 12 | NS |
| Jun-04 | NI | NI | NS | NS | NS | NS | 205 | 2 | NS | NS | NS | 8 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 15 | NS |
| Sep-04 | NI | NI | NS | NS | NS | NS | 253 | 2 | NS | NS | NS | 8 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 12 | NS |
| Jun-06 | NI | NS | NS | NS | NS | NS | NS | 2 | NS | NS | NS | 64 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 230 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 1720 | 3 | NS | NS | NS | 8 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | 34 | NS |
| Dec-06 | NS | NS | 219 | 2 | 13 | 6 | 228 | 2 | NS | NS | 320 | 27 | NS | 251 | NS | 154 | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | 175 | NS |
| Mar-07 | NS | NS | NS | NS | NS | NS | 43 | 2 | NS | NS | NS | 16 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | 38 | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | 24 | 2 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | 1210 | NS |
| Oct-14 | NS | NS | 140 | NS | NS | NS | NS | 3.3 | NS | NS | NS | NS | NS | 130 | NS | NS | NS | NS | 280 | NS | NS | 10 | 130 | NS | NS | NS | NS | NS | NS |
| **Parameter: Alkalinity Method: 310.1** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-03 | NI | NI | NS | NS | NS | NS | < 1.0 | < 1.0 | NS | NS | NS | 16 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 62 | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | 0.0 | 0.0 | NS | NS | NS | 0.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 31 | NS |
| Jun-04 | NI | NI | NS | NS | NS | NS | < 1.0 | < 1.0 | NS | NS | NS | < 1.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 29 | NS |
| Sep-04 | NI | NI | NS | NS | NS | NS | < 1.0 | < 1.0 | NS | NS | NS | < 1.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 19 | NS |
| Jun-06 | NI | NS | NS | NS | NS | NS | 1,112 | < 1.0 | NS | NS | NS | < 1.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 17 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 177 | < 1.0 | NS | NS | NS | < 1.0 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 59 | NS |
| Oct-14 | NS | NS | 240 | NS | NS | NS | NS | < 5.0 | NS | NS | NS | NS | NS | 67 | NS | NS | NS | NS | 79 | NS | NS | 89 | 110 | NS | NS | NS | NS | NS | NS |
| **Ferrous Iron ($Fe^{2+}$) mg/L Method: 8146** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-03 | NI | NI | NS | NS | NS | NS | 530 | 1.00 | NS | NS | NS | 9.90 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 13.0 | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | 538 | 0.31 | NS | NS | NS | 16.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 13.5 | NS |
| Jun-04 | NI | NI | NS | NS | NS | NS | 307 | 0.08 | NS | NS | NS | 8.20 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 7.80 | NS |
| Sep-04 | NI | NI | NS | NS | NS | NS | 577 | 0.19 | NS | NS | NS | 12.4 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 11.8 | NS |
| Jun-06 | NI | NS | NS | NS | NS | NS | 0.03 | 0.07 | NS | NS | NS | 0.99 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 0.53 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 0.53 | 0.02 | NS | NS | NS | 0.76 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 0.34 | NS |
| Oct-14 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| **Ferric Iron ($Fe^{3+}$) mg/L Method: Calculated** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-03 | NI | NI | NS | NS | NS | NS | < 1.0 | 22 | NS | NS | NS | 1.1 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 1.0 | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | BDL | 3.5 | NS | NS | NS | BDL | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | BDL | NS |
| Jun-04 | NI | NI | NS | NS | NS | NS | 53 | < 0.1 | NS | NS | NS | 5.8 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 1.3 | NS |
| Sep-04 | NI | NI | NS | NS | NS | NS | < 25.0 | < 4.0 | NS | NS | NS | < 5.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 5.0 | NS |
| Jun-06 | NI | NS | NS | NS | NS | NS | 250 | 0.68 | NS | NS | NS | 56.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 10 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 35 | 0.45 | NS | NS | NS | 67 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 14.7 | NS |
| Oct-14 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |

**Table 4-3: Groundwater Natural Attenuation Parameters**
**VOPAK Terminal Savannah, Savannah, GA**

| Wells | IW-1R | IW-18 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18 / MW-18R | MW-19 | MW-20 | MW-21 | MW-22 / MW-22R | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-28 | MW-29 | MW-30 | MW-31 | MW-32 | MW-33 | MW-34 | MW-35 | MW-36 | MW-37 | PAN MW-9 | PAN-MW-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Sulfide (S) mg/L Method: 9034** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-03 | NI | NI | NS | NS | NS | NS | 45.0 | < 1.0 | NS | NS | NS | < 1.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 2.7 | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | 1.0 | < 0.4 | NS | NS | NS | < 0.4 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 9.0 | NS |
| Jun-04 | NI | NI | NS | NS | NS | NS | 0.8 | < 0.2 | NS | NS | NS | < 0.2 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 0.2 | NS |
| Sep-04 | NI | NI | NS | NS | NS | NS | 8.6 | < 4.0 | NS | NS | NS | < 4.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 0.4 | NS |
| Jun-06 | NI | NS | NS | NS | NS | NS | < 1.0 | < 1.0 | NS | NS | NS | 4.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 5.0 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | < 1.0 | < 1.0 | NS | NS | NS | < 1.0 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | < 1.0 | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | < 1.0 | < 1.0 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | < 1.0 | NS |
| Oct-14 | NS | NS | < 10.0 | NS | NS | NS | NS | 19 | NS | NS | NS | NS | NS | 11 | NS | NS | NS | NS | < 10.0 | NS | NS | < 10.0 | 11 | NS | NS | NS | NS | NS | NS |
| **Chloride (Cl) mg/L Method: 9056A** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-03 | NI | NI | NS | NS | NS | NS | 16.0 | 12.0 | NS | NS | NS | 100.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 43.0 | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | 14.6 | 12.5 | NS | NS | NS | 114.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 50.3 | NS |
| Jun-04 | NI | NI | NS | NS | NS | NS | 10.5 | 73.7 | NS | NS | NS | 73.7 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 35.2 | NS |
| Sep-04 | NI | NI | NS | NS | NS | NS | 9.8 | 11.5 | NS | NS | NS | 73.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 47.0 | NS |
| Jun-06 | NI | NS | NS | NS | NS | NS | 4.9 | 10.4 | NS | NS | NS | 1080.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 100.0 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 4.9 | 9.7 | NS | NS | NS | 2240.0 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 124.0 | NS |
| Oct-14 | NS | NS | 59.0 | NS | NS | NS | NS | 20 | NS | NS | NS | NS | NS | 30.0 | NS | NS | NS | NS | 360.0 | NS | NS | 190.0 | 6.0 | NS | NS | NS | NS | NS | NS |
| **Nitrate-(N) mg/L Method: 9056A** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-03 | NI | NI | NS | NS | NS | NS | 17 | 36 | NS | NS | NS | < 1.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 1.0 | NS |
| Jun-04 | NI | NI | NS | NS | NS | NS | < 0.0 | < 0.0 | NS | NS | NS | < 0.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 0.0 | NS |
| Sep-04 | NI | NI | NS | NS | NS | NS | < 0.0 | < 0.0 | NS | NS | NS | < 0.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 0.0 | NS |
| Jun-06 | NI | NS | NS | NS | NS | NS | 0.16 | 7.67 | NS | NS | NS | 0.19 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 0.0 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | < 0.0 | 2.32 | NS | NS | NS | 0.02 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | < 0.0 | NS |
| Oct-14 | NS | NS | < 0.1 | NS | NS | NS | NS | 0.22 | NS | NS | NS | NS | NS | < 0.0 | NS | NS | NS | NS | < 0.1 | NS | NS | 4.1 | < 0.1 | NS | NS | NS | NS | NS | NS |
| **Nitrite (N) mg/L Method: 9056A** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-03 | NI | NI | NS | NS | NS | NS | 0.8 | < 1.0 | NS | NS | NS | < 1.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 1.0 | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | < 0.0 | 0.2 | NS | NS | NS | 0.01 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 0.1 | NS |
| Jun-04 | NI | NI | NS | NS | NS | NS | < 0.0 | 21.6 | NS | NS | NS | < 0.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 0.18 | NS |
| Sep-04 | NI | NI | NS | NS | NS | NS | < 0.0 | 19.3 | NS | NS | NS | < 0.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 0.0 | NS |
| Jun-06 | NI | NS | NS | NS | NS | NS | 0.06 | 0.29 | NS | NS | NS | < 0.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 0.0 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | < 0.0 | 0.17 | NS | NS | NS | < 0.2 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | < 0.0 | NS |
| Oct-14 | NS | NS | < 0.1 | NS | NS | NS | NS | < 0.0 | NS | NS | NS | NS | NS | < 0.0 | NS | NS | NS | NS | 0.36 | NS | NS | 0.22 | < 0.1 | NS | NS | NS | NS | NS | NS |
| **Sulfate ($SO_4$) mg/L Method: 9056A** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-03 | NI | NI | NS | NS | NS | NS | 3,700 | 56 | NS | NS | NS | 190 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 79 | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | 3,480 | 86 | NS | NS | NS | 124 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 82 | NS |
| Jun-04 | NI | NI | NS | NS | NS | NS | 3,250 | 102 | NS | NS | NS | 105 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 78 | NS |
| Sep-04 | NI | NI | NS | NS | NS | NS | 4,600 | 85 | NS | NS | NS | 113 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 89 | NS |
| Jun-06 | NI | NS | NS | NS | NS | NS | 1,920 | 71 | NS | NS | NS | 42 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 8 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 229 | 55 | NS | NS | NS | 120 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 8 | NS |
| Sep-07 | NS | NS | NS | NS | NS | NS | 48 | 55 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 2 | NS |
| Oct-14 | NS | NS | < 1.0 | NS | NS | NS | NS | 71 | NS | NS | NS | NS | NS | 12 | NS | NS | NS | NS | 1.8 | NS | NS | 120 | 3 | NS | NS | NS | NS | NS | NS |
| **Total Iron mg/L Method: 6010C** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-03 | NI | NI | NS | NS | NS | NS | 500 | 0.2 | NS | NS | NS | 11 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 13 | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | 510 | 3.8 | NS | NS | NS | 19 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 12 | NS |
| Jun-04 | NI | NI | NS | NS | NS | NS | 360 | < 0.0 | NS | NS | NS | 14 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 9.1 | NS |
| Sep-04 | NI | NI | NS | NS | NS | NS | 380 | < 0.2 | NS | NS | NS | 10 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 9.8 | NS |
| Jun-06 | NI | NS | NS | NS | NS | NS | 250 | 0.75 | NS | NS | NS | 57 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 11 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 36 | 0.45 | NS | NS | NS | 68 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 15 | NS |
| Oct-14 | NS | NS | 63 | NS | NS | NS | NS | 1 | NS | NS | NS | NS | NS | 6 | NS | NS | NS | NS | 53 | NS | NS | 7 | 20 | NS | NS | NS | NS | NS | NS |
| **Methane ug/L Method: AM20GAX** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NI | NI | NS | NS | NS | NS | NS | NS | NS | NS | NS | 140 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 590 | NS |
| Oct-03 | NI | NI | NS | NS | NS | NS | NS | < 0.2 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NS | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | 1,300 | 180 | NS | NS | NS | 650 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 1700 | NS |
| Jun-06 | NI | NI | NS | NS | NS | NS | 1,800 | 320 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 2800 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 2,200 | 230 | NS | NS | NS | 630 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 4500 | NS |
| Oct-14 | NS | NS | 8,100 | NS | NS | NS | NS | 540 | NS | NS | NS | NS | NS | 7,500 | NS | NS | NS | NS | 7,700 | NS | NS | 3,000 | 6,800 | NS | NS | NS | NS | NS | NS |

**Table 4-3: Groundwater Natural Attenuation Parameters**
**VOPAK Terminal Savannah, Savannah, GA**

| Wells | IW-1R | IW-18 | LAW-PZ-8 / LAW-PZ-8R | MW-14 | MW-15 | MW-16 | MW-17 / MW-17R | MW-18 / MW-18R | MW-19 | MW-20 | MW-21 | MW-22 / MW-22R | MW-23 | MW-24 / MW-24R | MW-25 | MW-26 / MW-26R | MW-27 | MW-28 | MW-29 | MW-30 | MW-31 | MW-32 | MW-33 | MW-34 | MW-35 | MW-36 | MW-37 | PAN MW-9 | PAN-MW-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ethane ug/L Method: AM20GAX** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NI | NI | NS | NS | NS | NS | < 0.4 | NS | NS | NS | NS | < 0.4 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 0.4 | NS |
| Oct-03 | NI | NI | NS | NS | NS | NS | NS | < 0.4 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NS | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | 0.04 | 0.12 | NS | NS | NS | 44.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 10.0 | NS |
| Jun-06 | NI | NI | NS | NS | NS | NS | 0.1 | 0.2 | NS | NS | NS | 21.0 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 2.5 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 0.11 | 0.15 | NS | NS | NS | 10.0 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 3.5 | NS |
| Oct-14 | NS | NS | 61 | NS | NS | NS | NS | 0.15 | NS | NS | NS | NS | NS | 0.79 | NS | NS | NS | NS | 2 | NS | NS | 5.6 | 14 | NS | NS | NS | NS | NS | NS |
| **Ethene ug/L Method: AM20GAX** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NI | NI | NS | NS | NS | NS | NS | < 0.3 | NS | NS | NS | < 0.3 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | < 0.3 | NS |
| Oct-03 | NI | NI | NS | NS | NS | NS | < 0.3 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NS | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | 0.02 | 0.01 | NS | NS | NS | 29 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 3.9 | NS |
| Jun-06 | NI | NI | NS | NS | NS | NS | 0.03 | 0.1 | NS | NS | NS | 19 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 1.7 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 0.14 | 0.10 | NS | NS | NS | 8.5 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 2.400 | NS |
| Oct-14 | NS | NS | 67 | NS | NS | NS | NS | 0.07 | NS | NS | NS | NS | NS | 16 | NS | NS | NS | NS | 230 | NS | NS | 7.4 | 84 | NS | NS | NS | NS | NS | NS |
| **$CO_2$ ug/L Method: AM20GAX** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug-03 | NI | NI | NS | NS | NS | NS | 3,500,000 | NS | NS | NS | NS | 86,000 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 97,000 | NS |
| Oct-03 | NI | NI | NS | NS | NS | NS | NS | 83,000 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | NS | NS |
| Mar-04 | NI | NI | NS | NS | NS | NS | 990,000 | 410,000 | NS | NS | NS | 390,000 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 350,000 | NS |
| Jun-06 | NI | NI | NS | NS | NS | NS | 630,000 | 300,000 | NS | NS | NS | 420,000 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 380,000 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 600 | 220 | NS | NS | NS | 200 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 400 | NS |
| Oct-14 | NS | NS | 440,000 | NS | NS | NS | NS | 210,000 | NS | NS | NS | NS | NS | 520,000 | NS | NS | NS | NS | 570,000 | NS | NS | 330,000 | 580,000 | NS | NS | NS | NS | NS | NS |
| **Nitrogen mg/L Method: AM20GAX** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jun-06 | NI | NI | NS | NS | NS | NS | 4.5 | 11 | NS | NS | NS | 10 | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | NI | 12 | NS |
| Oct-06 | NS | NS | NS | NS | NS | NS | 9.7 | 18 | NS | NS | NS | 14 | NS | NS | NS | NS | NS | NS | NS | NI | NI | NI | NI | NI | NI | NI | NI | 12 | NS |
| Oct-14 | NS | NS | 8.9 | NS | NS | NS | NS | 17 | NS | NS | NS | NS | NS | 5.8 | NS | NS | NS | NS | 8.3 | NS | NS | 14 | 31 | NS | NS | NS | NS | NS | NS |
| **CO mg/L** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-14 | NS | NS | < 1.0 | NS | NS | NS | NS | < 1.0 | NS | NS | NS | NS | NS | < 1.0 | NS | NS | NS | NS | < 1.0 | NS | NS | < 1.0 | < 1.0 | NS | NS | NS | NS | NS | NS |

**Notes:**
All data prior to October 2011 tabulated by ERM.
Beginning on October 2011, pH, Temperature, Dissolved Oxygen, Specific Conductivity, and Oxidation-Reduction Potential, were field measured utilizing a Horiba U-52 water quality measuring device after parameters had stablized and prior to sample collection.
All other parameters measured from October 2011 onward were analyzed by a laboratory.
NS = Not Sampled
NL= Not Located
NU= Located but Not Utilized
NI = Well Not yet Installed
LAW-PZ-8 was replaced by LAW-PZ-8R on October 9, 2006
MW-17 was replaced by MW-17R on October 10, 2006
MW-26 was replaced by MW-26R on October 9, 2006
MW-14 was located by EIC on January 24, 2013.
IW-18 was ultilized as a replacement for MW-15 beginning on October 2011
MW-30 was installed as a replacement for MW-21 on April 6, 2011
MW-31 was installed as a replacement for MW-27 on April 28, 2011
MW-27 was located by EIC on April 28, 2011
MW-32 was installed as a replacement for MW-20 on April 25, 2011
MW-33 was installed as a replacement for MW-22 on April 28, 2011
MW-34 was installed as a replacement for MW-28 on April 26, 2011
MW-35, MW-36, MW-37 were installed on December 16 and 17 2013 respectively
MW-28 was located during the October 2014 sampling event

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| IW-1R | Apr-14 | 310 | | 210 | | 13000 | | 640 | | 130 | | 300 | | 2900 | | 25000 | |
| | Oct-14 | 170 | | 190 | | 11000 | | 450 | | 130 | J | 320 | | 2200 | | 19000 | |
| IW-18 | Oct-11 | 55 | | 58 | | 4400 | | 220 | | 36 | | 7.3 | J | 38 | | 93 | |
| | Jan-12 | 48 | J | 43 | J | 4800 | | 230 | | 29 | J | <50 | | 33 | J | 86 | |
| | Apr-12 | 44 | J | 46 | J | 4500 | | 210 | | 25 | J | <50 | | 24 | J | 55 | J |
| | Jul-12 | 31 | J | 33 | J | 4500 | | 160 | | 21 | J | <50 | | 29 | J | 92 | J |
| | Oct-12 | 36 | J | 37 | J | 5200 | | 320 | | 24 | J | <50 | | 31 | J | 110 | |
| | Jan-13 | 43 | J | 44 | J | 6000 | | 310 | | 25 | J | <50 | | 40 | J | 170 | |
| | Apr-13 | 42 | | 37 | | 6000 | | 410 | | 26 | | 13 | | 49 | | 270 | |
| | Jul-13 | 27 | | 31 | | 5900 | | 770 | | 30 | | 21 | | 110 | | 1000 | |
| | Oct-13 | 29 | | 26 | | 6400 | | 670 | | 26 | | 12 | | 56 | | 510 | |
| | Jan-14 | 19 | | 28 | | 5300 | | 1900 | | 60 | | 24 | | 100 | | 810 | |
| | Apr-14 | 39 | | 34 | | 7400 | | 1100 | | 73 | | 35 | | 220 | | 1900 | |
| | Oct-14 | 11 | J | 12 | J | 2900 | | 1500 | | 170 | | 28 | J | 130 | | 1100 | |
| LAW-PZ-8 / LAW-PZ-8R | Sep-97 | 50/500 | | NR | | NR | | 350/<500 | | NS | | NS | | NS | | NS | |
| | Dec-98 | <1000 | | NR | | NR | | <1,000 | | <1000 | | <1000 | | 4300 | | 5600 | |
| | Nov-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | <250 | | <250 | | 1800 | | 890 | | <250 | | <250 | | 5100 | | 59000 | |
| | Jun-01 | <1200 | | <1200 | | 3900 | | 670 | | 69 | J | 220 | J | 5700 | | 64000 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | 70 | J | 18 | J | 350 | | 120 | | 42 | J | <100 | | 3700 | | 42000 | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | 300 | | <100 | | 31000 | | 1700 | | 190 | | 1200 | | 6100 | | 84000 | |
| | Dec-06 | 240 | | 72 | | 12000 | | 630 | | 47 | | 410 | | 3000 | | 41000 | |
| | Mar-07 | <250 | | <250 | | 16000 | | 1200 | | <500 | | 760 | | 5000 | | 70000 | |
| | Sep-07 | 240 | | <100 | | 18000 | | 1200 | | 310 | | 720 | | 4400 | | 54000 | |
| | May-08 | 380 | | 34 | | 6900 | | 660 | | 450 | | 330 | | 6500 | | 94000 | |
| | Dec-08 | 570 | | 52 | | 4600 | | 360 | | 290 | | 290 | | 4900 | | 55000 | |
| | Apr-09 | 510 | | <250 | | <250 | | 560 | | 320 | | 280 | | 3800 | | 48000 | |
| | Sep-09 | 99 | | 34 | | 4500 | | 470 | | 390 | | 260 | | 4100 | | 47000 | |
| | Apr-10 | 240 | | 49 | | 5100 | | 480 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 150 | | 28 | J | 22000 | | 1500 | | 1600 | | 1100 | | 8000 | | 73000 | |
| | Jan-12 | 130 | J | <500 | | 17000 | | 1600 | | 1700 | | 930 | | 7500 | | 88000 | |
| | Apr-12 | 99 | J | <500 | | 17000 | | 1800 | | 2300 | | 1100 | | 7500 | | 110000 | |
| | Jul-12 | 110 | J | <500 | | 16000 | | 1200 | | 2000 | | 820 | | 7100 | | 91000 | |
| | Oct-12 | 83 | | <500 | | 8000 | | 870 | | 1300 | | 530 | | 7300 | | 100000 | |
| | Jan-13 | 99 | | <500 | | 13000 | | 1100 | | 2000 | | 800 | | 7500 | | 100000 | |
| | Apr-13 | 71 | | 12 | | 9100 | | 960 | | 1400 | | 570 | | 7200 | | 110000 | |
| | Jul-13 | 30 | | 5.6 | J | 11000 | | 990 | | 1900 | | 650 | | 7600 | | 110000 | |
| | Oct-13 | 44 | | 8.5 | J | 8500 | | 830 | | 1500 | | 510 | | 6800 | | 110000 | |
| | Jan-14 | 38 | | <1.9 | | 7200 | | 980 | | 1200 | | 370 | | 4000 | | 88000 | |
| | Apr-14 | 22 | | 8.6 | J | 7400 | | 840 | | 1200 | | 400 | | 4900 | | 58000 | |
| | Oct-14 | <150 | | <130 | | 15000 | | 1900 | | 3400 | | 1100 | | 13000 | | 180000 | |

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-14 | Feb-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-96 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-97 | 33 | | NR | | NR | | <5 | | NS | | NS | | NS | | NS | |
| | Dec-98 | <1 | | NR | | NR | | <1 | | <1 | | <1 | | **2.9** | | **1.4** | |
| | Nov-99 | <5 | | <5 | | <2 | | <2 | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | NS | | <2 | | <2 | | <5 | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-13 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | **3.5** | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.11 | | <0.33 | | <0.20 | |

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-15* | Feb-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-96 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-97 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-98 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Nov-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 5.3 | | 14 | | <5 | | NS | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | 12 | | 12 | | 4 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <3 | | 4 | | 3 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | 17 | | NS | | NS | | NS | | NS | |
| MW-16 | Oct-00 | NS | | <1 | | 110 | | 2.2 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | 41 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | 33 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | 36 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | 12 | | 120 | | 4 | | <2 | | <2 | | <2 | | 7 | |
| | Dec-06 | <2 | | 24 | | 120 | | 8 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | 9 | | 71 | | 320 | | 25 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | 260 | | 63 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | 61 | | 53 | | <2 | | <2 | | 6 | | <5 | |
| | Dec-08 | <5 | | <5 | | 60 | | 49 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | 78 | | 82 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | 4.1 | | 78 | | 69 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | <5 | | <5 | | 89 | | 83 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.57 | J | 0.66 | J | 160 | | 77 | | 0.52 | J | <1 | | 0.3 | J | 1.9 | J |
| | Jan-12 | 0.67 | J | 0.94 | J | 130 | | 85 | | 0.44 | J | 0.42 | J | 0.12 | J | 1.3 | J |
| | Apr-12 | <1 | | 0.94 | J | 140 | | 200 | | 0.74 | J | 0.33 | J | 1.7 | | 21 | |
| | Jul-12 | 0.28 | J | 0.63 | J | 87 | | 48 | | 0.41 | J | <1 | | 0.23 | J | 1.1 | J |
| | Oct-12 | <2 | | 0.37 | J | 200 | | 94 | | <2 | | <2 | | 0.52 | J | 1.7 | J |
| | Jan-13 | <1 | | <1 | | 120 | | 78 | | 0.27 | J | <1 | | 0.49 | J | 1.4 | J |
| | Apr-13 | <0.22 | | 0.6 | J | 140 | | 85 | | 0.42 | J | 0.24 | J | 2.1 | | 8 | |
| | Jul-13 | <0.16 | | <0.19 | | 320 | | 100 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | 0.58 | J | 1.1 | | 110 | | 86 | | 0.83 | | <0.14 | | 1.2 | | 5.6 | |
| | Jan-14 | <0.16 | | <0.19 | | 170 | | 180 | | 1.5 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | 1.1 | | 310 | | 160 | | 2 | | <0.14 | | 8.3 | | 4.1 | |
| | Oct-14 | <0.15 | | 0.34 | J | 130 | | 81 | | 1.3 | | <0.33 | | <0.11 | | <0.20 | |

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-17/ MW-17R | Oct-00 | NS | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Jul-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-04 | <5 | | <5 | | <5 | | <2 | | <10 | | **5** | | <5 | | <5 | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <5 | | <5 | | <5 | | <2 | | <10 | | **8** | | <5 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | **7** | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | **4** | | **27** | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | **0.2** | **J** | <1 | | **0.39** | **J** | <1 | | **0.55** | **J** | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | **0.44** | **J** | **0.35** | **J** | **1.5** | | **0.65** | **J** |
| | Apr-12 | <1 | | **0.13** | **J** | **2.8** | | **0.19** | **J** | **0.48** | **J** | <1 | | **0.7** | **J** | **0.22** | **J** |
| | Jul-12 | 1.3 | | **1.2** | | **9.2** | | <1 | | **0.29** | **J** | <1 | | **0.62** | **J** | **0.28** | **J** |
| | Oct-12 | 16 | | **5.2** | | **13** | | <1 | | <1 | | <1 | | **1.4** | | **0.5** | **J** |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **0.84** | **J** | <2 | |
| | Apr-13 | 4.1 | | **1.3** | | **1.6** | | <0.30 | | **0.18** | **J** | <0.15 | | **1.2** | | **0.33** | **J** |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | **1.5** | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | **0.83** | **J** | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | **0.95** | **J** | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | **0.66** | **J** | <0.20 | |
| MW-18/ MW18R | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **2** | | **22** | |
| | Mar-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Jul-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | **2** | | **16** | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-19 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | **0.22** | **J** | <1 | | <1 | | <1 | | **1.7** | | **12** | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | **0.14** | **J** | <0.30 | | <0.18 | | <0.15 | | **0.21** | **J** | **0.41** | **J** |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| MW-20 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-11 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-21 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | 120 | | 1.8 | | <1 | | <1 | | <1 | | <1 | | 4.2 | | 38 | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Aug-05 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Jun-06 | 12 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <5 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| MW-22/ MW-22R | Jun-01 | 8700 | | 900 | | 3100 | | 380 | | <500 | | <500 | | 600 | | 83 | J |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 1000 | | 480 | | 930 | | <100 | | <250 | | <250 | | <250 | | <500 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 7600 | | 700 | | 2300 | | 210 | | <10 | | <5 | | 2300 | | <50 | |
| | Jul-04 | 7000 | | 71 | | 310 | | 36 | | <10 | | <5 | | 14 | | <22 | |
| | Sep-04 | 7200 | | <250 | | 610 | | <100 | | <500 | | <250 | | <250 | | <250 | |
| | May-05 | 5700 | | 220 | | 840 | | <100 | | <100 | | <100 | | <100 | | <250 | |
| | Aug-05 | 2400 | | 47 | | 240 | | 37 | | <5 | | <5 | | <5 | | 10 | |
| | Jun-06 | 680 | | 71 | | 3300 | | 140 | | <250 | | <130 | | 150 | | <130 | |
| | Oct-06 | 2600 | | <130 | | 490 | | 89 | | <250 | | <130 | | <130 | | <130 | |
| | Dec-06 | 3200 | | 60 | | 480 | | 100 | | <2 | | <2 | | 20 | | 18 | |
| | Mar-07 | 3400 | | <130 | | 730 | | 100 | | <250 | | <130 | | <130 | | <130 | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | 6900 | | 89 | | 930 | | 270 | | 2 | | <2 | | 10 | | 26 | |
| | Dec-08 | 4400 | | 100 | | 2100 | | 300 | | <5 | | <5 | | 7 | | 12 | |
| | Apr-09 | 1900 | | 88 | | 1700 | | 280 | | <5 | | <5 | | 11 | | 22 | |
| | Sep-09 | 3000 | | 88 | | 1000 | | 220 | | 4.1 | | <2 | | 9.2 | | 12 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jul-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jul-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-23 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 760 | | 2300 | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <2 | | <2 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | **0.23** | **J** | **0.42** | **J** |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| MW-24/ MW-24R | Nov-01 | 400 | | 95 | | 240 | | 50 | | <12 | | <12 | | <12 | | <25 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 97 | | 51 | | 100 | | 22 | | 52 | | <10 | | <10 | | <20 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | 1300 | | 180 | | 500 | | 49 | | 11 | | <5 | | 5 | | 28 | |
| | Oct-06 | 580 | | 150 | | 590 | | 33 | | <20 | | <20 | | <20 | | <50 | |
| | Dec-06 | 1110 | | 680 | | 990 | | 68 | | 13 | | <2 | | 10 | | 35 | |
| | Mar-07 | 130 | | 200 | | 770 | | 17 | | 14 | | <5 | | <5 | | 12 | |
| | Sep-07 | 62 | | 37 | | 820 | | 20 | | 12 | | <2 | | 2 | | 7 | |
| | May-08 | 130 | | 24 | | 82 | | 9 | | 16 | | <2 | | <2 | | 11 | |
| | Dec-08 | 110 | | 25 | | 340 | | 12 | | 15 | | <5 | | <5 | | <5 | |
| | Apr-09 | 93 | | 22 | | 240 | | 18 | | 12 | | <5 | | <5 | | <5 | |
| | Sep-09 | 57 | | 20 | | 120 | | 47 | | 10 | | <2 | | <2 | | <5 | |
| | Apr-10 | 35 | | 10 | | 150 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 12 | | 5.8 | | 180 | | 25 | | 10 | | <5 | | 1.4 | J | 4.2 | J |
| | Jan-12 | 7.5 | | 3.9 | | 160 | | 16 | | 8.2 | | 0.4 | J | 0.98 | J | 11 | |
| | Apr-12 | 6.8 | | 4.7 | | 230 | | 7.4 | | 11 | | 1.8 | J | 16 | | 230 | |
| | Jul-12 | 6.7 | | 3.6 | | 220 | | 9.2 | | 7.6 | | <2 | | <2 | | <4 | |
| | Oct-12 | 6 | | 3.4 | J | 320 | | 54 | | 8.1 | | <5 | | 3.4 | J | 20 | |
| | Jan-13 | 3 | J | 2.1 | J | 410 | | 71 | | 6.9 | | <5 | | 4 | J | 22 | |
| | Apr-13 | 3.5 | | 2.8 | | 540 | | 64 | | 6.2 | | 0.71 | J | 4.4 | | 26 | |
| | Jul-13 | 5.3 | | 5.4 | | 800 | | 140 | | 8.2 | | 1.2 | | 11 | | 58 | |
| | Oct-13 | 3.3 | | 2.2 | | 450 | | 43 | | 6 | | 0.41 | J | 0.79 | J | 6.3 | |
| | Jan-14 | 2.6 | | 4.4 | | 570 | | <0.19 | | 6.1 | | <0.14 | | <0.19 | | 2.7 | |
| | Apr-14 | 2 | | 1.8 | | 500 | | <0.19 | | 5.8 | | 0.48 | J | 0.45 | J | 2 | |
| | Oct-14 | 1.7 | J | <0.65 | | 360 | | 38 | | 5.6 | | <1.7 | | 1.3 | J | <1.0 | |

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-25 | Nov-01 | <5 | | <5 | | <5 | | <10 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **0.72** | **J** | **8.7** | |
| | Jan-12 | <1 | | <1 | | **0.21** | **J** | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | 0.27 | **J** | <1 | | **0.57** | **J** | <1 | | <1 | | <1 | | **3.2** | | **20** | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| MW-26/ MW-26R | Nov-01 | **2400** | | **100** | | **1100** | | **210** | | <100 | | <100 | | <100 | | <200 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | **300** | | **14** | | **180** | | **38** | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | **120** | | **8** | | **120** | | **28** | | **17** | | <2 | | <2 | | <5 | |
| | Aug-05 | **420** | | **22** | | **210** | | **47** | | **35** | | <5 | | <5 | | **6** | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | <2 | | **2** | | **2800** | | **330** | | **16** | | **45** | | **380** | | **2700** | |
| | Dec-06 | **6** | | **4** | | **5100** | | **560** | | **20** | | **83** | | **1500** | | **13000** | |
| | Mar-07 | <5 | | <5 | | **2600** | | **580** | | **17** | | **45** | | **1100** | | **6900** | |
| | Sep-07 | <2 | | <2 | | **240** | | **240** | | **9** | | **4** | | **71** | | **250** | |
| | May-08 | 5 | | <2 | | **410** | | **83** | | **12** | | **10** | | **260** | | **1300** | |
| | Dec-08 | <5 | | <5 | | **14** | | **19** | | <5 | | **5** | | **23** | | **120** | |
| | Apr-09 | <5 | | <5 | | **200** | | **76** | | **14** | | **21** | | **310** | | **2700** | |
| | Sep-09 | <2. | | <2 | | **150** | | **62** | | **4.4** | | **3.8** | | **63** | | **380** | |
| | Apr-10 | <5 | | <5 | | **93** | | **48** | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | **0.89** | **J** | **43** | | **34** | | **7.2** | | **1.4** | | **35** | | **110** | |
| | Jan-12 | <25 | | **5** | **J** | **390** | | **130** | | **29** | | **59** | | **650** | | **6100** | |
| | Apr-12 | <25 | | **5.5** | **J** | **350** | | **140** | | **22** | **J** | **54** | | **610** | | **7200** | |
| | Jul-12 | <5 | | <5 | | **43** | | **40** | | **21** | | **15** | | **270** | | **2000** | |
| | Oct-12 | <50 | | <50 | | **210** | | **63** | | **35** | **J** | **37** | **J** | **390** | | **4200** | |
| | Jan-13 | **27** | **J** | **21** | **J** | **1500** | | **220** | | **64** | | **140** | | **2000** | | **2400** | |
| | Apr-13 | 5 | **J** | **3.2** | **J** | **340** | | **94** | | **56** | | **40** | | **650** | | **8300** | |
| | Jul-13 | <1.6 | | <1.9 | | **19** | | **12** | | **75** | | **18** | | **450** | | **5500** | |
| | Oct-13 | <1.6 | | <1.9 | | **150** | | **53** | | **33** | | **10** | **J** | **160** | | **2300** | |
| | Jan-14 | <1.6 | | <1.9 | | **68** | | <1.9 | | **110** | | **11** | | **200** | | **7200** | |
| | Apr-14 | **44** | | <1.9 | | **16** | | **11** | | **110** | | <1.4 | | **64** | | **5600** | |
| | Oct-14 | <0.75 | | **4.1** | **J** | **7.2** | | **7.3** | | **19** | | <1.1 | | **25** | | **400** | |

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-27 | Nov-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | 3 | | **2** | | **350** | | **5** | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | **40** | | **22** | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | **92** | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.86 | **J** | **1.6** | **J** | **8.3** | | **200** | | **0.63** | **J** | <2 | | **0.29** | **J** | **3.4** | **J** |
| | Jan-12 | 0.17 | **J** | **0.42** | **J** | **1.8** | | **19** | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | 0.26 | **J** | **0.4** | **J** | **1.7** | | **15** | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | **0.26** | **J** | **1.4** | | **21** | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | **0.33** | **J** | **1.1** | | **16** | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | 0.36 | **J** | **0.88** | **J** | **2.1** | | **20** | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | **0.33** | **J** | **1** | **J** | **6.5** | | <0.18 | | <0.15 | | **0.35** | **J** | **3.9** | |
| | Jul-13 | <0.16 | | **0.8** | **J** | **2.6** | | **18** | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | **2.9** | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | **2.1** | | **13** | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | **1.9** | | **9.7** | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | **2.2** | | **12** | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| MW-28 | Oct-02 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | 2.3 | | **0.44** | **J** | **14** | | **3.4** | | **0.82** | **J** | <0.33 | | **0.27** | **J** | **2.2** | |

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-29 | Oct-06 | 1500 | | 340 | | 1500 | | 24 | | 2 | | <2 | | 67 | | 51 | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | 2300 | | 320 | | 1700 | | 64 | | 3 | | <2 | | 63 | | 57 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | 1100 | | 320 | | 2100 | | 74 | | <5 | | <5 | | 35 | | 98 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | 500 | | 300 | | 3200 | | 150 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 180 | | 72 | | 2300 | | 220 | | <20 | | <20 | | 1300 | | 2800 | |
| | Jan-12 | 200 | | 77 | | 2500 | | 280 | | <20 | | <20 | | 1100 | | 2500 | |
| | Apr-12 | 100 | | 62 | | 1900 | | 200 | | 6.3 | J | 7.6 | J | 950 | | 2100 | |
| | Jul-12 | 110 | | 54 | | 1900 | | 230 | | 6.8 | J | <20 | | 510 | | 1000 | |
| | Oct-12 | 71 | | 44 | | 1600 | | 110 | | <20 | | <20 | | 200 | | 370 | |
| | Jan-13 | 110 | | 41 | | 1300 | | 140 | | 6 | J | 6.7 | J | 1300 | | 2900 | |
| | Apr-13 | 130 | | 76 | | 2500 | | 490 | | 11 | | 4.1 | | 750 | | 1500 | |
| | Jul-13 | 120 | | 69 | | 2800 | | 460 | | 15 | | 5.4 | J | 800 | | 1700 | |
| | Oct-13 | 140 | | 66 | | 6100 | | 760 | | 20 | | 10 | J | 1200 | | 2500 | |
| | Jan-14 | 330 | | 110 | | 5900 | | 790 | | 23 | | 20 | | 3100 | | 6600 | |
| | Apr-14 | 200 | | 150 | | 8400 | | 880 | | 25 | | 21 | | 1900 | | 4000 | |
| | Oct-14 | 74 | | 55 | | 4300 | | 660 | | <13 | | 21 | J | 1800 | | 4300 | |
| MW-30 | Oct-11 | 0.51 | J | 0.55 | J | 13 | | 2.9 | | 0.55 | J | <1 | | <1 | | <2 | |
| | Jan-12 | 0.18 | J | 0.46 | J | 13 | | 3.1 | | 0.47 | J | <1 | | <1 | | 0.58 | J |
| | Apr-12 | 0.19 | J | 0.43 | J | 9.4 | | 2.6 | | 0.44 | J | <1 | | <1 | | <2 | |
| | Jul-12 | 0.45 | J | 0.45 | J | 7.7 | | 2.4 | | 0.43 | J | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | 0.4 | J | 11 | | 3.6 | | 0.54 | J | <1 | | <1 | | <2 | |
| | Jan-13 | 0.2 | J | 0.38 | J | 9.4 | | 3.1 | | 0.54 | J | <1 | | <1 | | <2 | |
| | Apr-13 | 0.32 | J | 0.32 | J | 7.8 | | 4.5 | | 0.85 | J | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | 11 | | <0.19 | | 1.8 | | <0.14 | | <0.19 | | 2.6 | |
| | Oct-13 | <0.16 | | <0.19 | | 6.2 | | 2.5 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | 5.6 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | 0.4 | J | 0.4 | J | 5 | | <0.19 | | 0.48 | J | <0.14 | | 1 | J | 2.2 | |
| | Oct-14 | 0.39 | J | <0.13 | | 2.3 | | 1.2 | | 0.35 | J | <0.33 | | <0.11 | | <0.20 | |
| MW-31 | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.24 | J |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.21 | J |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.33 | J | 2.4 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.43 | J | <0.18 | | <0.25 | | <0.33 | | 0.33 | J | <0.20 | |
| MW-32 | Oct-11 | 7.2 | J | 11 | | 1500 | | 35 | | <10 | | <10 | | 31 | | 35 | |
| | Jan-12 | 130 | | 61 | | 2100 | | 53 | | <20 | | <20 | | 45 | | 56 | |
| | Apr-12 | 210 | | 100 | | 2000 | | 54 | | <20 | | <20 | | 28 | | 22 | J |
| | Jul-12 | 200 | | 140 | | 1100 | | 40 | | <10 | | <10 | | 17 | | 16 | J |
| | Oct-12 | 1700 | | 470 | | 1700 | | 110 | | <10 | | <10 | | 54 | | 26 | |
| | Jan-13 | 2800 | | 530 | | 940 | | 93 | | <20 | | <20 | | 61 | | 27 | J |
| | Apr-13 | 2800 | | 520 | | 980 | | 120 | | 0.94 | J | 2.8 | | 75 | | 42 | |
| | Jul-13 | 2200 | | 570 | | 750 | | 96 | | <1.6 | | <1.4 | | 66 | | 40 | |
| | Oct-13 | 6200 | | 1300 | | 1600 | | 220 | | <1.6 | | 7.2 | J | 160 | | 110 | |
| | Jan-14 | 6500 | | 1300 | | 1600 | | 230 | | <1.6 | | <1.4 | | 180 | | 170 | |
| | Apr-14 | 6000 | | 1500 | | 2200 | | 230 | | <1.6 | | <1.4 | | 200 | | 130 | |
| | Oct-14 | 1900 | | 680 | | 1100 | | 100 | | 8.3 | J | <6.6 | | 36 | | 29 | J |
| MW-33 | Oct-11 | 5200 | | 3200 | | 16000 | | 840 | | <200 | | <200 | | 370 | | 2200 | |
| | Jan-12 | 1100 | | 190 | | 4100 | | 370 | | <50 | | <50 | | 94 | | 450 | |
| | Apr-12 | 13 | | 11 | | 1800 | | 390 | | 12 | | 9.3 | J | 46 | | 390 | |
| | Jul-12 | 40 | J | 35 | J | 3000 | | 290 | | <50 | | <50 | | 34 | J | 88 | J |
| | Oct-12 | 37 | | 35 | | 2300 | | 330 | | <20 | | <20 | | 28 | | 70 | |
| | Jan-13 | 5.9 | | 9.9 | | 390 | | 130 | | 1.7 | J | 2.3 | | 7.3 | | 15 | |
| | Apr-13 | 1.2 | | 4.7 | | 380 | | 130 | | 1.3 | | 1.5 | | 5.3 | | 12 | |
| | Jul-13 | 15 | | 5.1 | J | 500 | | 220 | | <1.6 | | <1.4 | | 8.9 | J | 24 | |
| | Oct-13 | 1.2 | | 4.8 | | 800 | | 480 | | 1.8 | | 2 | | 9 | | 26 | |
| | Jan-14 | <1.6 | | <1.9 | | 340 | | 300 | | <1.6 | | <1.4 | | 16 | | 40 | |
| | Apr-14 | <1.6 | | 8.4 | J | 360 | | 140 | | <1.6 | | <1.4 | | 7 | J | 25 | |
| | Oct-14 | 1.2 | J | 9.7 | | 390 | | 440 | | <1.3 | | 3.5 | J | 9.4 | | 37 | |

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-34 | Oct-11 | 2.2 | | 1.7 | | 44 | | 14 | | 1.6 | | <1 | | <1 | | <2 | |
| | Jan-12 | 13 | | 4.4 | | 80 | | 8.8 | | 3.6 | | <1 | | <1 | | <2 | |
| | Apr-12 | 4.3 | | 2.2 | | 64 | | 16 | | 2.3 | | <1 | | <1 | | <2 | |
| | Jul-12 | 2.3 | | 1.3 | | 35 | | 7.8 | | 1.3 | | <1 | | <1 | | <2 | |
| | Oct-12 | 4.9 | | 1.8 | | 45 | | 8.6 | | 1.8 | | <1 | | <1 | | <2 | |
| | Jan-13 | 8.6 | | 2.5 | | 43 | | 8.4 | | 1.9 | | <1 | | <1 | | <2 | |
| | Apr-13 | 2.7 | | 0.91 | J | 19 | | 5.7 | | 0.76 | J | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | 3 | | 1 | J | 24 | | 0.19 | | 1.1 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | 6.1 | | 3.1 | | 36 | | 9.8 | | 1.3 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | 2.4 | | <0.19 | | 14 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | 0.51 | J | <0.19 | | 4.2 | | <0.19 | | 0.26 | J | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | 1.1 | | 0.23 | J | 5.1 | | 1.8 | | <0.25 | | <0.33 | | 0.17 | J | <0.20 | |
| MW-35 | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.16 | J | <0.18 | | <0.25 | | <0.33 | | 0.11 | J | <.20 | |
| MW-36 | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | 0.33 | J | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.6 | J | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| MW-37 | Jan-14 | 30 | | 16 | | 860 | | 130 | | 14 | | <0.14 | | <0.19 | | 1.9 | |
| | Apr-14 | 22 | | 11 | | 690 | | <0.19 | | 16 | | <0.14 | | 1.8 | | 3.8 | |
| | Oct-14 | 36 | | 12 | | 370 | | 93 | | 10 | | 0.91 | J | 0.83 | J | 2.4 | J |
| PAN-MW-9 | Feb-91 | 14000 | | 350 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Jul-91 | 9200 | | 430 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Jun-96 | 3040 | | < 2500 | | < 2,500 | | < 2500 | | NS | | NS | | NS | | NS | |
| | Sep-97 | 8100 | | NR | | NR | | < 500 | | NS | | NS | | NS | | NS | |
| | Dec-98 | 7400 | | NR | | NR | | < 250 | | < 250 | | < 250 | | 2400 | | 5200 | |
| | Dec-99 | 9100 | | < 1000 | | < 400 | | < 400 | | NS | | NS | | NS | | NS | |
| | Oct-00 | 8000 | | 360 | | 130 | | < 100 | | < 100 | | < 100 | | 3900 | | 8600 | |
| | Jun-01 | 9800 | | 260 | J | 100 | J | < 200 | | < 500 | | < 500 | | 3700 | | 8500 | |
| | Aug-03 | 2400 | | < 500 | | < 500 | | < 200 | | < 500 | | < 500 | | 1100 | | 2000 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 6900 | | 440 | | 300 | | 35 | | < 50 | | < 25 | | 3100 | | 7300 | |
| | Jul-04 | 3200 | | 270 | | 170 | | 14 | | < 10 | | < 5 | | 8400 | | 22000 | |
| | Sep-04 | 6000 | | 360 | | < 250 | | < 100 | | < 500 | | < 250 | | 2200 | | 5100 | |
| | May-05 | 1100 | | 320 | | 220 | | < 100 | | < 100 | | < 100 | | 6000 | | 16000 | |
| | Aug-05 | 80 | | 9 | | 5 | | < 2 | | <2 | | < 5 | | 60 | | 150 | |
| | Jun-06 | 1600 | | 480 | | 550 | | < 40 | | < 200 | | < 100 | | 730 | | 1800 | |
| | Oct-06 | 1500 | | 300 | | 990 | | < 40 | | < 200 | | < 100 | | 990 | | 2600 | |
| | Dec-06 | 1900 | | 640 | | 600 | | 23 | | < 2 | | < 2 | | 1800 | | 4900 | |
| | Mar-07 | 600 | | 370 | | 680 | | < 40 | | < 200 | | < 100 | | 4500 | | 12000 | |
| | Sep-07 | 1500 | | 450 | | 880 | | < 40 | | < 40 | | < 40 | | 1900 | | 5400 | |
| | May-08 | 510 | | 190 | | 590 | | 18 | | < 2 | | 3 | | 8800 | | 24000 | |
| | Dec-08 | 540 | | 150 | | 500 | | 25 | | < 5 | | < 5 | | 3900 | | 11000 | |
| | Apr-09 | 460 | | 150 | | 780 | | < 40 | | < 100 | | < 100 | | 2400 | | 6300 | |
| | Sep-09 | 440 | | 150 | | 730 | | 49 | | < 10 | | < 10 | | 2300 | | 6100 | |
| | Apr-10 | 710 | | 140 | | 530 | | 93 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 350 | | 1100 | | 780 | | 62 | | < 50 | | < 50 | | 1900 | | 4200 | |
| | Jan-12 | 690 | | 770 | | 820 | | 55 | | < 20 | | < 20 | | 2000 | | 5800 | |
| | Apr-12 | 280 | | 1300 | | 1100 | | 45 | | < 20 | | < 20 | | 1900 | | 5500 | |
| | Jul-12 | 37 | | 1200 | | 1300 | | 65 | | < 25 | | < 25 | | 890 | | 2600 | |
| | Oct-12 | 210 | | 1200 | | 1800 | | 110 | | < 25 | | < 25 | | 1800 | | 4900 | |
| | Jan-13 | 540 | | 480 | | 1200 | | 69 | | < 25 | | < 25 | | 1100 | | 3500 | |
| | Apr-13 | 240 | | 500 | | 1400 | | 120 | | 2.8 | J | 3.4 | J | 1000 | | 3700 | |
| | Jul-13 | 55 | | 790 | | 1200 | | 88 | | < 1.6 | | < 1.4 | | 760 | | 2200 | |
| | Oct-13 | 29 | | 440 | | 2500 | | 76 | | 1.1 | | 1.5 | | 1000 | | 2600 | |
| | Jan-14 | 17 | | 300 | | 2100 | | 190 | | < 1.6 | | < 1.4 | | 1100 | | 2700 | |
| | Apr-14 | 22 | | 190 | | 2000 | | 140 | | <1.6 | | <1.4 | | 960 | | 2400 | |
| | Oct-14 | 17 | | 35 | | 1900 | | 130 | | 4.4 | J | <3.3 | | 650 | | 1800 | |

# Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 700 | | 5241 | | 10000 | |
| **Well ID** | **Sample Date** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** |
| PAN-MW-10 | Feb-91 | 37 | | < 5 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Sep-97 | 10 | | NR | | NR | | < 5 | | NS | | NS | | NS | | NS | |
| | Dec-98 | < 1 | | NR | | NR | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | |
| | Nov-99 | < 5 | | < 5 | | < 2 | | < 2 | | NS | | NS | | NS | | NS | |
| | Oct-00 | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jun-01 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 10 | |
| | Aug-03 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 10 | |
| | Sep-07 | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 5 | |
| | Apr-09 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 5 | |
| | Apr-10 | < 5 | | < 5 | | < 5 | | < 2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | **0.79** | **J** | **2.6** | | **1.3** | | < 1 | | < 1 | | **3.7** | | < 1 | | **9.9** | |
| | Jan-12 | < 1 | | **0.21** | **J** | **3.7** | | **0.2** | **J** | **0.28** | **J** | **1.2** | | < 1 | | **17** | |
| | Apr-12 | < 1 | | < 1 | | **0.71** | **J** | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jul-12 | < 1 | | < 1 | | **0.29** | **J** | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Oct-12 | < 1 | | < 1 | | **1.4** | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jan-13 | < 1 | | < 1 | | **1.2** | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Apr-13 | < 0.22 | | < 0.20 | | **0.82** | **J** | < 0.30 | | < 0.18 | | <0.097 | | < 0.15 | | < 0.31 | |
| | Jul-13 | < 0.16 | | < 0.19 | | < 0.21 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Oct-13 | < 0.16 | | < 0.19 | | **0.76** | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Jan-14 | < 0.16 | | < 0.19 | | **1.3** | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.19 | | <0.14 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | **0.34** | **J** | <0.18 | | <0.25 | | <0.11 | | <0.33 | | <0.20 | |

**Notes:**
**0.79** = Concentration above Minimum Detection Limit (MDL)
**39** = Concentration above RRS
NR = Not Reported by Laboratory
NS = Not Sampled
NL = Not Located
NU = Not Useable due to siltation
NA = Not Avaliable
All data prior to October 2011 tabulated by ERM

## Table 4-5: Historical Groundwater Elevation Table
## VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Groundwater Potentiometric Surface Elevation (ft.) | | | | | | | | | | | | MW Min.* | MW Max.* | MW Range* | MW Avg.* | MW Var.* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct-11 | Jan-12 | Apr-12 | Jul-12 | Oct-12 | Jan-13 | Apr-13 | Jul-13 | Oct-13 | Jan-14 | Apr-14 | Oct-14 | | | | | |
| *IW-1R (1)* | NG | NG | NG | NG | NG | NG | NG | NG | NG | NG | NS | NS | NA | NA | NA | NA | NA |
| *IW-18 (1)* | 7.15 | 6.36 | 5.52 | 6.39 | 6.30 | 6.22 | 7.28 | 7.44 | 6.77 | 6.73 | 7.20 | 7.02 | 5.52 | 7.44 | 1.92 | 6.70 | 0.31 |
| *LAW-PZ-8R (1)* | 7.75 | 7.08 | 7.36 | 7.65 | 6.79 | 6.78 | 7.83 | 8.22 | 7.10 | 7.63 | 7.15 | 6.17 | 6.17 | 8.22 | 2.05 | 7.29 | 0.32 |
| *MW-14 (2)*[2] | NL | NL | NL | NL | NL | NL | NL | NL | 3.65 | 2.14 | 2.27 | 2.80 | 2.14 | 3.65 | 1.51 | 2.72 | 0.47 |
| *MW-16 (1)* | 5.67 | 4.36 | 4.31 | 5.24 | 4.34 | 4.04 | 4.72 | 4.91 | 5.15 | 4.40 | 5.09 | 4.70 | 4.04 | 5.67 | 1.63 | 4.74 | 0.23 |
| *MW-17R (1)* | 3.93 | 2.49 | 3.59 | 4.34 | 4.86 | 4.79 | 5.15 | 5.32 | 5.21 | 5.32 | 5.95 | 4.58 | 2.49 | 5.95 | 3.46 | 4.63 | 0.87 |
| *MW-18R (1)* | 7.65 | 6.81 | 7.32 | 7.58 | 6.92 | 6.76 | 7.80 | 8.03 | 7.15 | 7.55 | 8.02 | 7.58 | 6.76 | 8.03 | 1.27 | 7.43 | 0.19 |
| *MW-19 (1)* | 8.11 | 7.29 | 7.91 | 7.98 | 7.78 | 7.17 | 7.97 | 8.12 | 7.53 | 7.86 | 8.55 | 7.95 | 7.17 | 8.55 | 1.38 | 7.85 | 0.14 |
| *MW-23 (1)* | 6.39 | 5.65 | 6.51 | 6.25 | 6.18 | 5.71 | 6.34 | 5.63 | 6.19 | 6.19 | 7.43 | 5.63 | 5.63 | 7.43 | 1.80 | 6.18 | 0.26 |
| *MW-24R (1)* | 5.86 | 5.30 | 5.80 | 5.60 | 5.39 | 5.22 | 5.92 | 5.00 | 5.49 | 5.91 | 6.44 | 6.16 | 5.00 | 6.44 | 1.44 | 5.67 | 0.17 |
| *MW-25 (1)* | 7.91 | 7.14 | 7.81 | 7.93 | 7.64 | 7.12 | 8.05 | 8.20 | 7.41 | 7.84 | 8.43 | 7.96 | 7.12 | 8.43 | 1.31 | 7.79 | 0.16 |
| *MW-26R (1)* | 7.39 | 6.48 | 7.17 | 7.21 | 6.58 | 6.41 | 7.44 | 8.09 | 7.88 | 7.48 | 8.00 | 7.67 | 6.41 | 8.09 | 1.68 | 7.32 | 0.33 |
| *MW-27 (1)* | 5.06 | 4.10 | 4.89 | 4.77 | 4.42 | 4.30 | 4.66 | 4.47 | 4.58 | 4.61 | 5.66 | 5.45 | 4.10 | 5.66 | 1.56 | 4.75 | 0.21 |
| *MW-28 (2)* | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NS | NA | NA | NA | NA | NA |
| *MW-29 (0.75)* | 5.71 | 5.01 | 5.38 | 5.27 | 4.91 | 4.67 | 5.48 | 5.12 | 5.21 | 5.43 | 5.83 | 5.91 | 4.67 | 5.91 | 1.24 | 5.33 | 0.14 |
| *MW-30 (2)* | 6.28 | 5.60 | 5.99 | 6.09 | 5.75 | 5.29 | 6.18 | 6.27 | 6.76 | 6.23 | 6.63 | 6.28 | 5.29 | 6.76 | 1.47 | 6.11 | 0.17 |
| *MW-31 (2)* | 4.41 | 3.94 | 4.17 | 4.48 | 4.26 | 3.92 | 4.42 | 4.32 | NG | 4.47 | 5.05 | 5.11 | 3.92 | 5.11 | 1.19 | 4.41 | 0.15 |
| *MW-32 (2)* | 5.23 | 4.53 | 5.24 | 5.49 | 5.00 | 4.75 | 5.32 | 5.15 | 5.04 | 5.23 | 5.73 | 5.60 | 4.53 | 5.73 | 1.20 | 5.19 | 0.11 |
| *MW-33 (2)* | 6.54 | 5.67 | 6.17 | 5.90 | 5.05 | 5.07 | 6.60 | 6.41 | 7.07 | 6.24 | 7.02 | 6.48 | 5.05 | 7.07 | 2.02 | 6.19 | 0.44 |
| *MW-34 (2)* | 7.40 | 6.81 | 7.00 | 7.29 | 6.53 | 6.53 | 7.52 | 7.73 | 6.86 | 7.41 | 7.94 | 7.69 | 6.53 | 7.94 | 1.41 | 7.23 | 0.22 |
| *MW-35 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 4.77 | 4.73 | 4.91 | 4.73 | 4.91 | 0.18 | 4.80 | 0.01 |
| *MW-36 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 1.89 | 3.44 | 3.71 | 1.89 | 3.71 | 1.82 | 3.01 | 0.96 |
| *MW-37 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 7.42 | 7.88 | 7.77 | 7.42 | 7.88 | 0.46 | 7.69 | 0.06 |
| *PAN-MW-10 (2)* | 3.45 | 2.47 | 2.94 | 3.51 | 3.19 | 3.35 | 3.43 | 3.82 | 3.53 | 3.50 | 4.13 | 4.37 | 2.47 | 4.37 | 1.90 | 3.47 | 0.25 |
| *PAN-MW-9 (2)* | 6.24 | 5.39 | 5.74 | 5.98 | 5.54 | 5.32 | 6.07 | 5.86 | 5.93 | 6.23 | 6.57 | 6.41 | 5.32 | 6.57 | 1.25 | 5.94 | 0.15 |
| **Event Min.*[3]** | 3.45 | 2.47 | 2.94 | 3.51 | 3.19 | 3.35 | 3.43 | 3.82 | 3.53 | 1.89 | 3.44 | 3.71 | **Global Min.*[4]** | | 1.89 | | |
| **Event Max.*[3]** | 8.11 | 7.29 | 7.91 | 7.98 | 7.78 | 7.17 | 8.05 | 8.22 | 7.88 | 7.86 | 8.55 | 7.96 | **Global Max.*[4]** | | 8.55 | | |
| **Event Range*[3]** | 4.66 | 4.82 | 4.97 | 4.47 | 4.59 | 3.82 | 4.62 | 4.40 | 4.35 | 5.97 | 5.11 | 4.25 | **Global Range*[4]** | | 6.66 | | |
| **Event Avg.*[3]** | 6.22 | 5.39 | 5.83 | 6.05 | 5.65 | 5.44 | 6.22 | 6.22 | 6.16 | 5.92 | 6.49 | 6.14 | **Global Avg.*[4]** | | 5.98 | | |
| **Event Var.*[3]** | 1.88 | 2.14 | 2.03 | 1.69 | 1.50 | 1.32 | 1.90 | 2.30 | 1.43 | 2.46 | 2.04 | 1.63 | **Global Var.*[4]** | | 2.04 | | |

**Notes:**

NI - Not Installed

NS - Not Surveyed, TOC elevation information is not available for well

NL - Not Located

NA - Not Applicable

NG - Not Gauged

*** = Event Min, Max, Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for each respective groundwater gauging event.

*[2] = MW-14 is considered a deep well at the Site and is not considered for the shallow potentiometric surface at the Site.

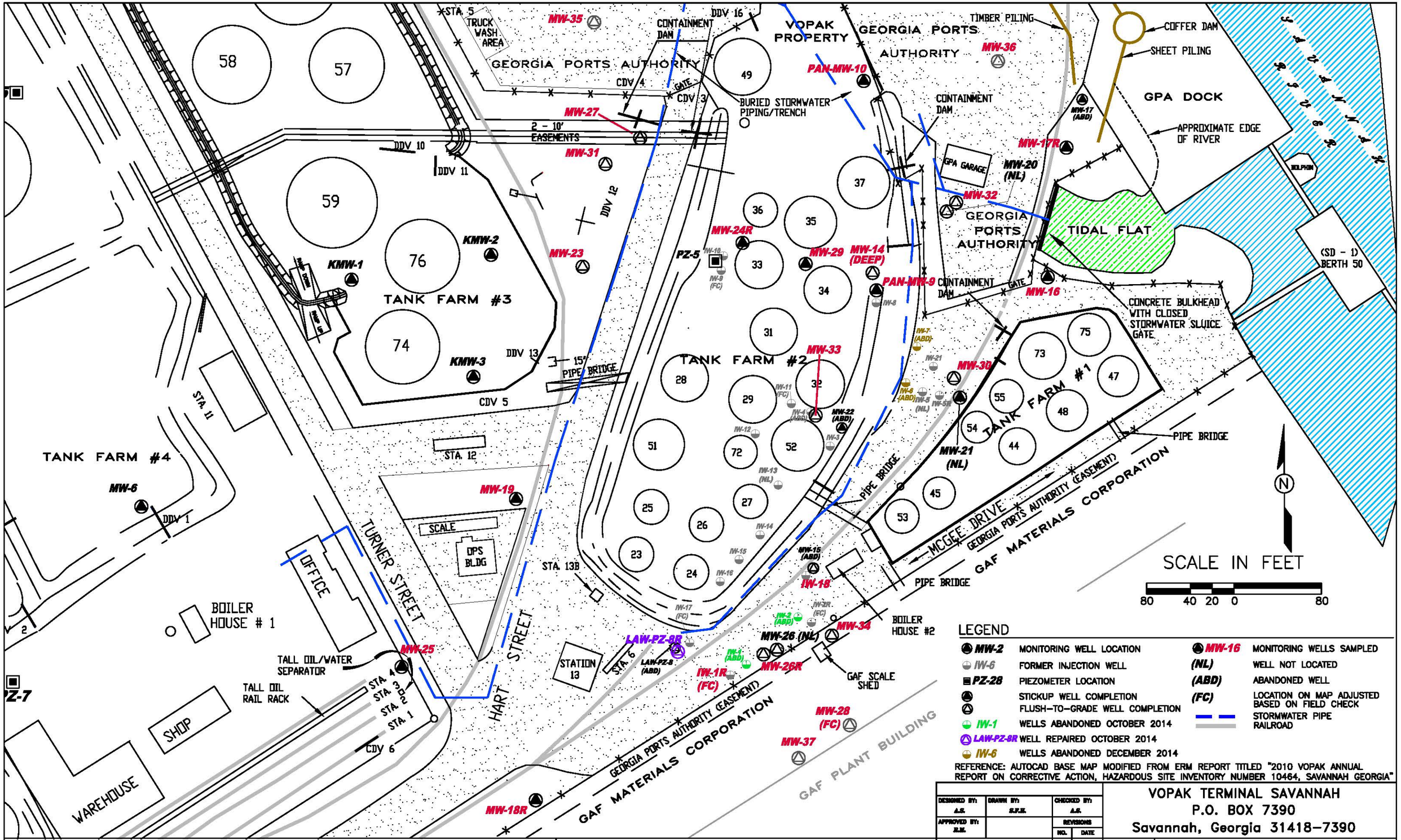
***[3] = MW Min., Max., Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for each monitoring well throughout all gauging events from October 2011 to October 2014 where available.

***[4]= Global Min., Max., Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for all monitoring wells throughout all events from October 2011 to October 2014

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# SEVENTH SEMI-ANNUAL PROGRESS REPORT

# FIGURES




## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | MW-16 | MONITORING WELLS SAMPLED |
| IW-6 | FORMER INJECTION WELL | (NL) | WELL NOT LOCATED |
| PZ-28 | PIEZOMETER LOCATION | (ABD) | ABANDONED WELL |
| | STICKUP WELL COMPLETION | (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| | FLUSH-TO-GRADE WELL COMPLETION | | STORMWATER PIPE |
| IW-1 | WELLS ABANDONED OCTOBER 2014 | | RAILROAD |
| LAW-PZ-8R | WELL REPAIRED OCTOBER 2014 | | |
| IW-6 | WELLS ABANDONED DECEMBER 2014 | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-1:
# OCTOBER AND DECEMBER 2014 WELL ACTIVITIES

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 01/08/2015 | FILE: 390044- EQ WELL ABD | SHEET NO.:

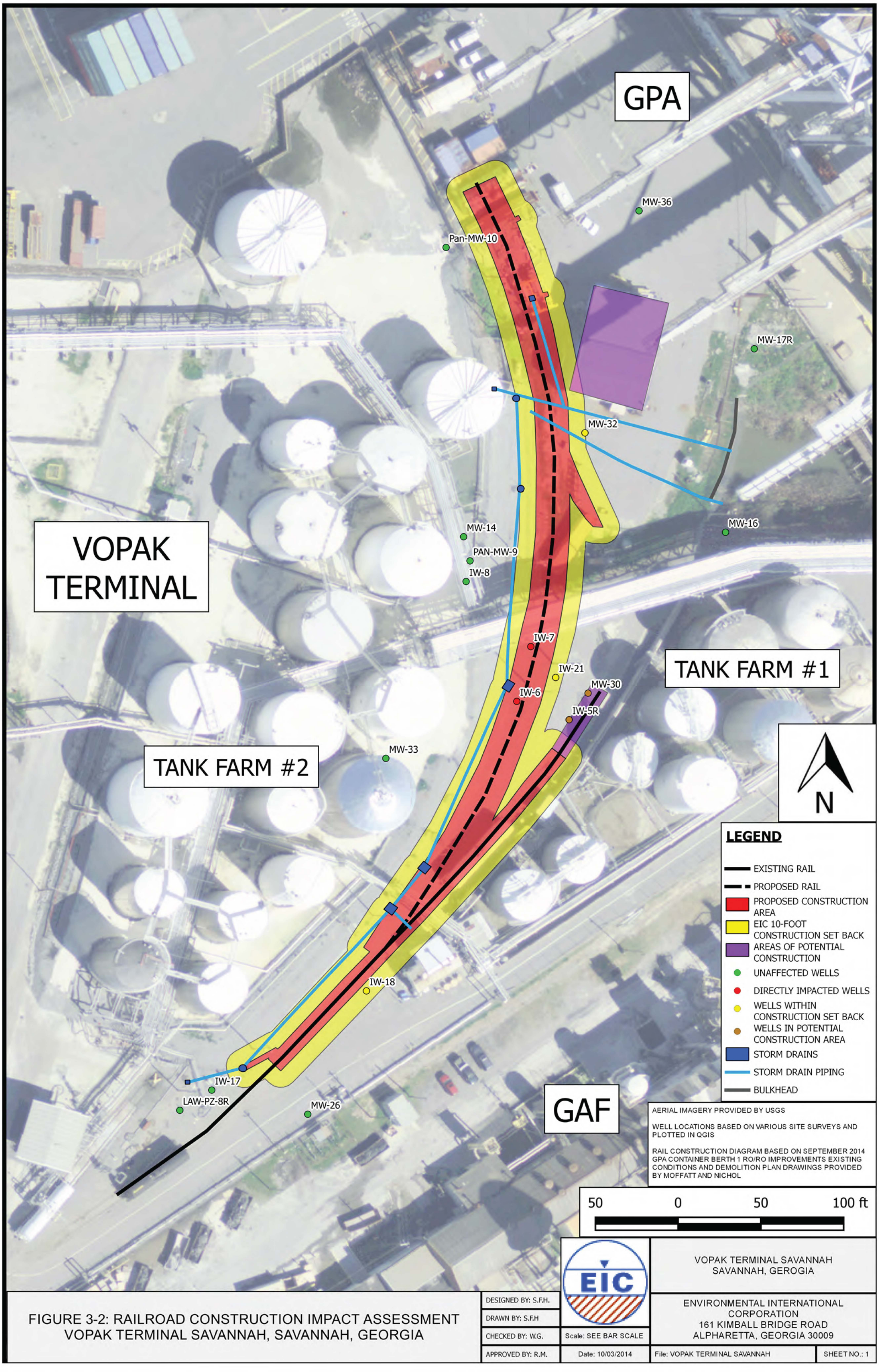
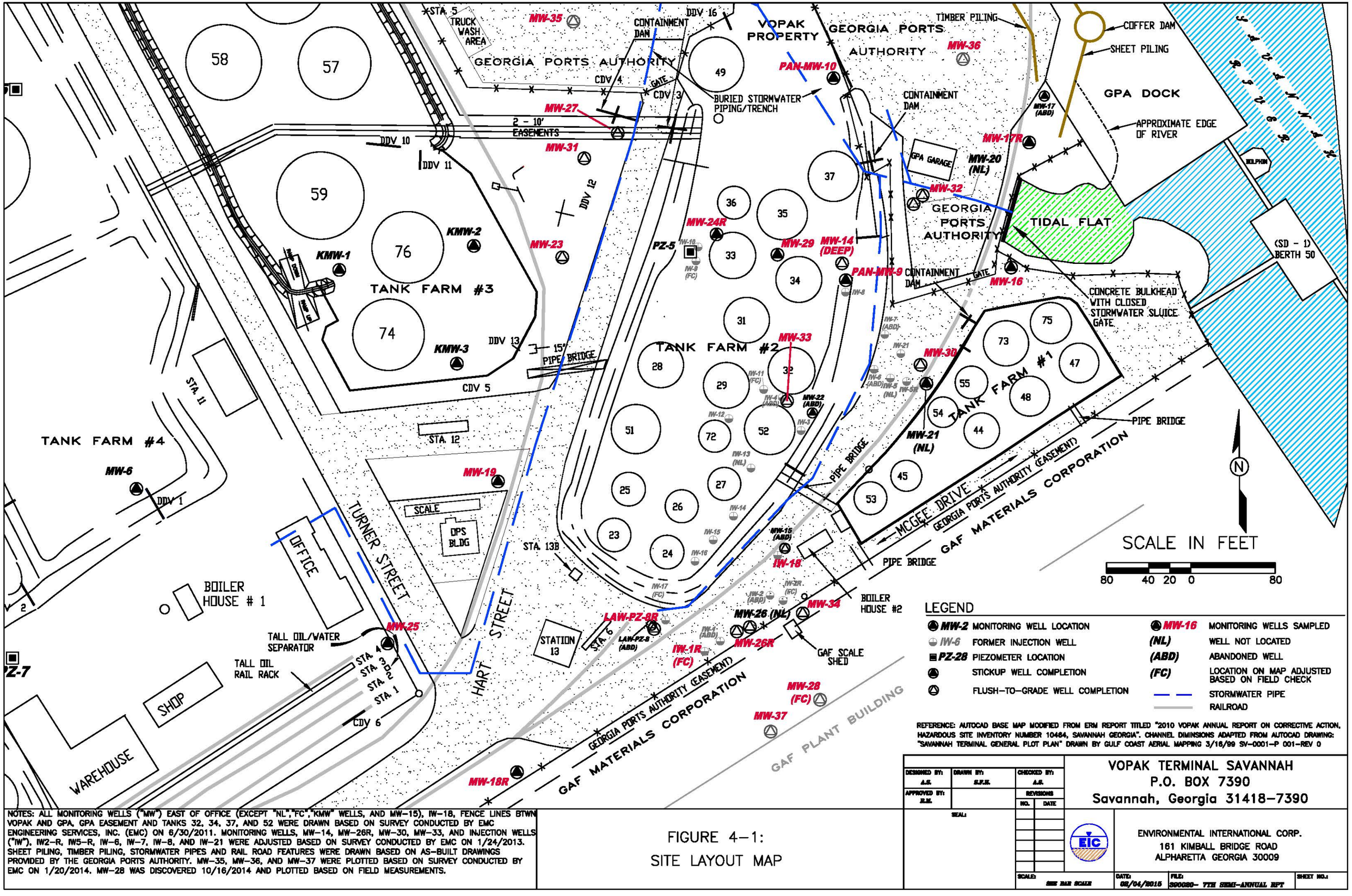



FIGURE 3-2: RAILROAD CONSTRUCTION IMPACT ASSESSMENT
VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA




## LEGEND

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| MW-16 | MONITORING WELLS SAMPLED |
| (NL) | WELL NOT LOCATED |
| (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| | STORMWATER PIPE |
| | RAILROAD |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

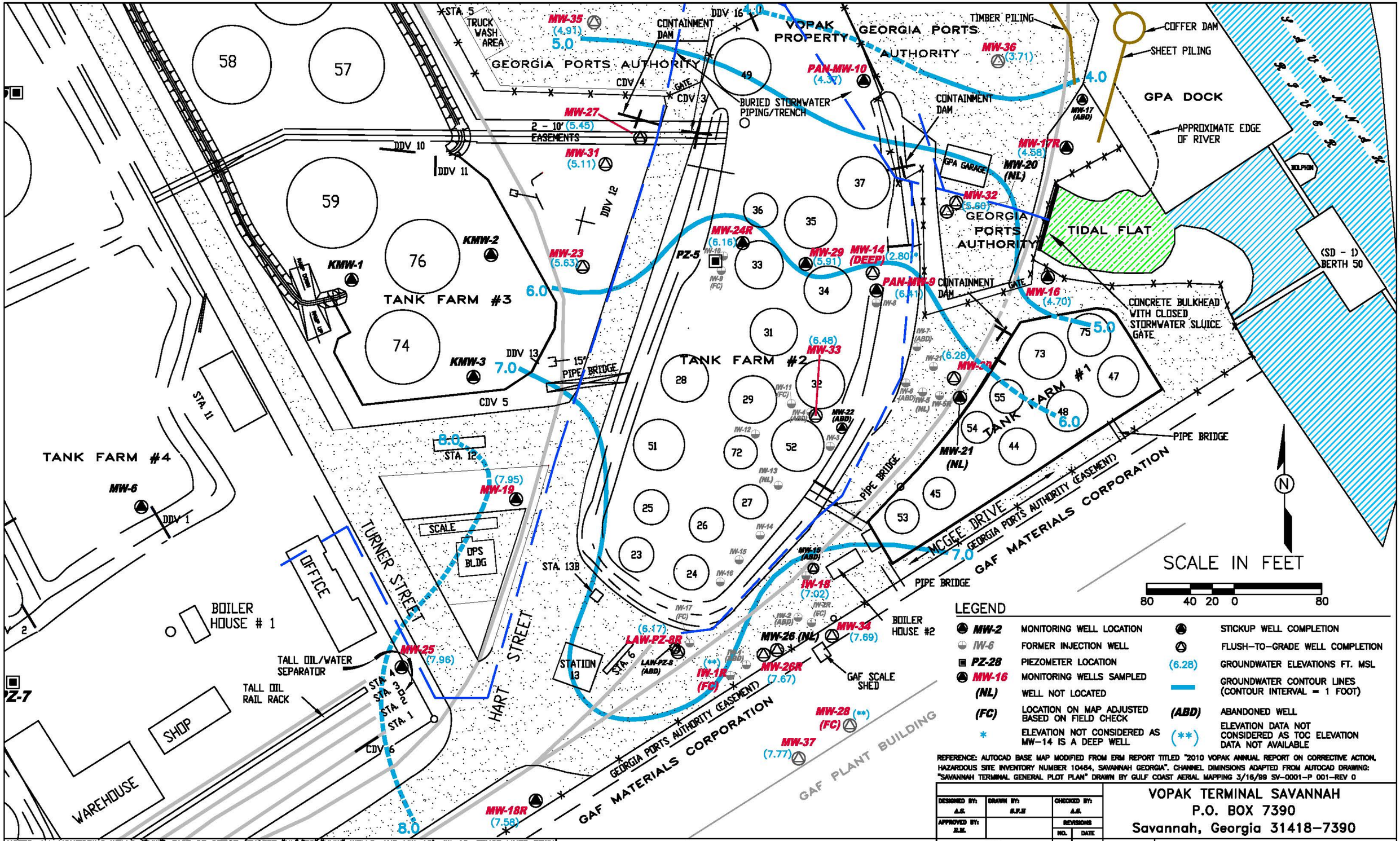
# FIGURE 4-1:
# SITE LAYOUT MAP

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/04/2015 | 390080- YTH SEMI-ANNUAL RPT | |




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS. GROUNDWATER POTENTIOMETRIC SUREFACE ELEVATIONS ARE IN NGVD29 DATUM

# FIGURE 4-2
## GROUNDWATER POTENTIOMETRIC SURFACE MAP
## OCTOBER 13-17, 2014

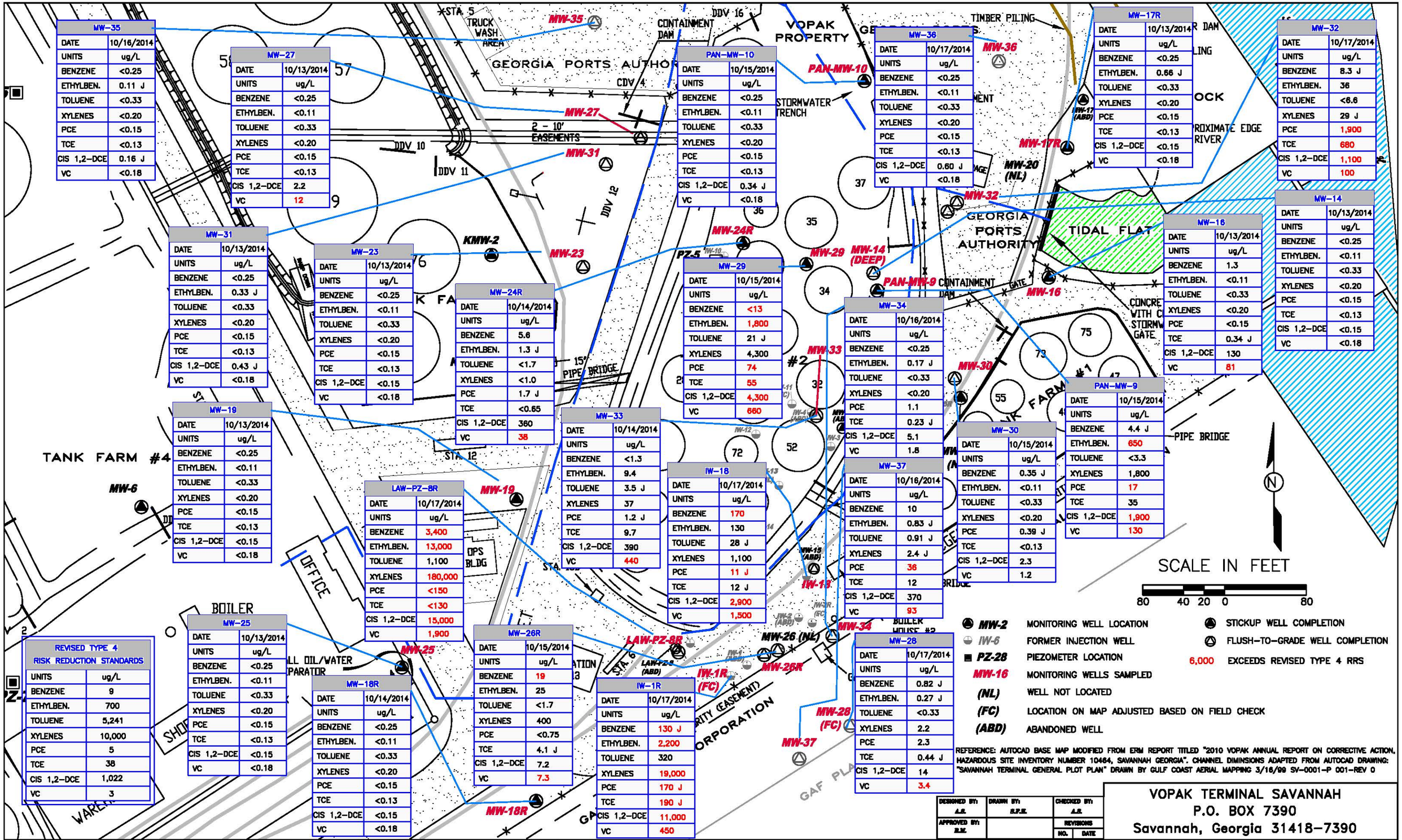
| DESIGNED BY: A.S. | DRAWN BY: S.F.H | CHECKED BY: A.S. |
|---|---|---|
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/6/2014 | FILE: 380080 - 7TH SEMI-ANNUAL RPT | SHEET NO.:




| MW-35 | |
|---|---|
| DATE | 10/16/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | 0.11 J |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | <0.13 |
| CIS 1,2-DCE | 0.16 J |
| VC | <0.18 |

| MW-27 | |
|---|---|
| DATE | 10/13/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | <0.11 |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | <0.13 |
| CIS 1,2-DCE | 2.2 |
| VC | 12 |

| MW-31 | |
|---|---|
| DATE | 10/13/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | 0.33 J |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | <0.13 |
| CIS 1,2-DCE | 0.43 J |
| VC | <0.18 |

| MW-23 | |
|---|---|
| DATE | 10/13/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | <0.11 |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | <0.13 |
| CIS 1,2-DCE | <0.15 |
| VC | <0.18 |

| MW-24R | |
|---|---|
| DATE | 10/14/2014 |
| UNITS | ug/L |
| BENZENE | 5.6 |
| ETHYLBEN. | 1.3 J |
| TOLUENE | <1.7 |
| XYLENES | <1.0 |
| PCE | 1.7 J |
| TCE | <0.65 |
| CIS 1,2-DCE | 360 |
| VC | 38 |

| MW-19 | |
|---|---|
| DATE | 10/13/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | <0.11 |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | <0.13 |
| CIS 1,2-DCE | <0.15 |
| VC | <0.18 |

| LAW-PZ-8R | |
|---|---|
| DATE | 10/17/2014 |
| UNITS | ug/L |
| BENZENE | 3,400 |
| ETHYLBEN. | 13,000 |
| TOLUENE | 1,100 |
| XYLENES | 180,000 |
| PCE | <150 |
| TCE | <130 |
| CIS 1,2-DCE | 15,000 |
| VC | 1,900 |

| MW-33 | |
|---|---|
| DATE | 10/14/2014 |
| UNITS | ug/L |
| BENZENE | <1.3 |
| ETHYLBEN. | 9.4 |
| TOLUENE | 3.5 J |
| XYLENES | 37 |
| PCE | 1.2 J |
| TCE | 9.7 |
| CIS 1,2-DCE | 390 |
| VC | 440 |

| PAN-MW-10 | |
|---|---|
| DATE | 10/15/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | <0.11 |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | <0.13 |
| CIS 1,2-DCE | 0.34 J |
| VC | <0.18 |

| MW-29 | |
|---|---|
| DATE | 10/15/2014 |
| UNITS | ug/L |
| BENZENE | <13 |
| ETHYLBEN. | 1,800 |
| TOLUENE | 21 J |
| XYLENES | 4,300 |
| PCE | 74 |
| TCE | 55 |
| CIS 1,2-DCE | 4,300 |
| VC | 660 |

| IW-18 | |
|---|---|
| DATE | 10/17/2014 |
| UNITS | ug/L |
| BENZENE | 170 |
| ETHYLBEN. | 130 |
| TOLUENE | 28 J |
| XYLENES | 1,100 |
| PCE | 11 J |
| TCE | 12 J |
| CIS 1,2-DCE | 2,900 |
| VC | 1,500 |

| MW-26R | |
|---|---|
| DATE | 10/15/2014 |
| UNITS | ug/L |
| BENZENE | 19 |
| ETHYLBEN. | 25 |
| TOLUENE | <1.7 |
| XYLENES | 400 |
| PCE | <0.75 |
| TCE | 4.1 J |
| CIS 1,2-DCE | 7.2 |
| VC | 7.3 |

| IW-1R | |
|---|---|
| DATE | 10/17/2014 |
| UNITS | ug/L |
| BENZENE | 130 J |
| ETHYLBEN. | 2,200 |
| TOLUENE | 320 |
| XYLENES | 19,000 |
| PCE | 170 J |
| TCE | 190 J |
| CIS 1,2-DCE | 11,000 |
| VC | 450 |

| MW-25 | |
|---|---|
| DATE | 10/13/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | <0.11 |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | <0.13 |
| CIS 1,2-DCE | <0.15 |
| VC | <0.18 |

| MW-18R | |
|---|---|
| DATE | 10/14/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | <0.11 |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | <0.13 |
| CIS 1,2-DCE | <0.15 |
| VC | <0.18 |

| REVISED TYPE 4 RISK REDUCTION STANDARDS | |
|---|---|
| UNITS | ug/L |
| BENZENE | 9 |
| ETHYLBEN. | 700 |
| TOLUENE | 5,241 |
| XYLENES | 10,000 |
| PCE | 5 |
| TCE | 38 |
| CIS 1,2-DCE | 1,022 |
| VC | 3 |

| MW-36 | |
|---|---|
| DATE | 10/17/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | <0.11 |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | <0.13 |
| CIS 1,2-DCE | 0.60 J |
| VC | <0.18 |

| MW-34 | |
|---|---|
| DATE | 10/16/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | 0.17 J |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | 1.1 |
| TCE | 0.23 J |
| CIS 1,2-DCE | 5.1 |
| VC | 1.8 |

| MW-37 | |
|---|---|
| DATE | 10/16/2014 |
| UNITS | ug/L |
| BENZENE | 10 |
| ETHYLBEN. | 0.83 J |
| TOLUENE | 0.91 J |
| XYLENES | 2.4 J |
| PCE | 36 |
| TCE | 12 |
| CIS 1,2-DCE | 370 |
| VC | 93 |

| MW-28 | |
|---|---|
| DATE | 10/17/2014 |
| UNITS | ug/L |
| BENZENE | 0.82 J |
| ETHYLBEN. | 0.27 J |
| TOLUENE | <0.33 |
| XYLENES | 2.2 |
| PCE | 2.3 |
| TCE | 0.44 J |
| CIS 1,2-DCE | 14 |
| VC | 3.4 |

| MW-17R | |
|---|---|
| DATE | 10/13/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | 0.66 J |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | <0.13 |
| CIS 1,2-DCE | <0.15 |
| VC | <0.18 |

| MW-32 | |
|---|---|
| DATE | 10/17/2014 |
| UNITS | ug/L |
| BENZENE | 8.3 J |
| ETHYLBEN. | 36 |
| TOLUENE | <6.6 |
| XYLENES | 29 J |
| PCE | 1,900 |
| TCE | 680 |
| CIS 1,2-DCE | 1,100 |
| VC | 100 |

| MW-14 | |
|---|---|
| DATE | 10/13/2014 |
| UNITS | ug/L |
| BENZENE | <0.25 |
| ETHYLBEN. | <0.11 |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | <0.13 |
| CIS 1,2-DCE | <0.15 |
| VC | <0.18 |

| MW-16 | |
|---|---|
| DATE | 10/13/2014 |
| UNITS | ug/L |
| BENZENE | 1.3 |
| ETHYLBEN. | <0.11 |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | <0.15 |
| TCE | 0.34 J |
| CIS 1,2-DCE | 130 |
| VC | 81 |

| PAN-MW-9 | |
|---|---|
| DATE | 10/15/2014 |
| UNITS | ug/L |
| BENZENE | 4.4 J |
| ETHYLBEN. | 650 |
| TOLUENE | <3.3 |
| XYLENES | 1,800 |
| PCE | 17 |
| TCE | 35 |
| CIS 1,2-DCE | 1,900 |
| VC | 130 |

| MW-30 | |
|---|---|
| DATE | 10/15/2014 |
| UNITS | ug/L |
| BENZENE | 0.35 J |
| ETHYLBEN. | <0.11 |
| TOLUENE | <0.33 |
| XYLENES | <0.20 |
| PCE | 0.39 J |
| TCE | <0.13 |
| CIS 1,2-DCE | 2.3 |
| VC | 1.2 |

MW-2 MONITORING WELL LOCATION
IW-6 FORMER INJECTION WELL
PZ-28 PIEZOMETER LOCATION
MW-16 MONITORING WELLS SAMPLED
(NL) WELL NOT LOCATED
(FC) LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK
(ABD) ABANDONED WELL

STICKUP WELL COMPLETION
FLUSH-TO-GRADE WELL COMPLETION
6,000 EXCEEDS REVISED TYPE 4 RRS

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-3:
# GROUNDWATER ANALYTICAL RESULTS
# OCTOBER 13-17, 2014

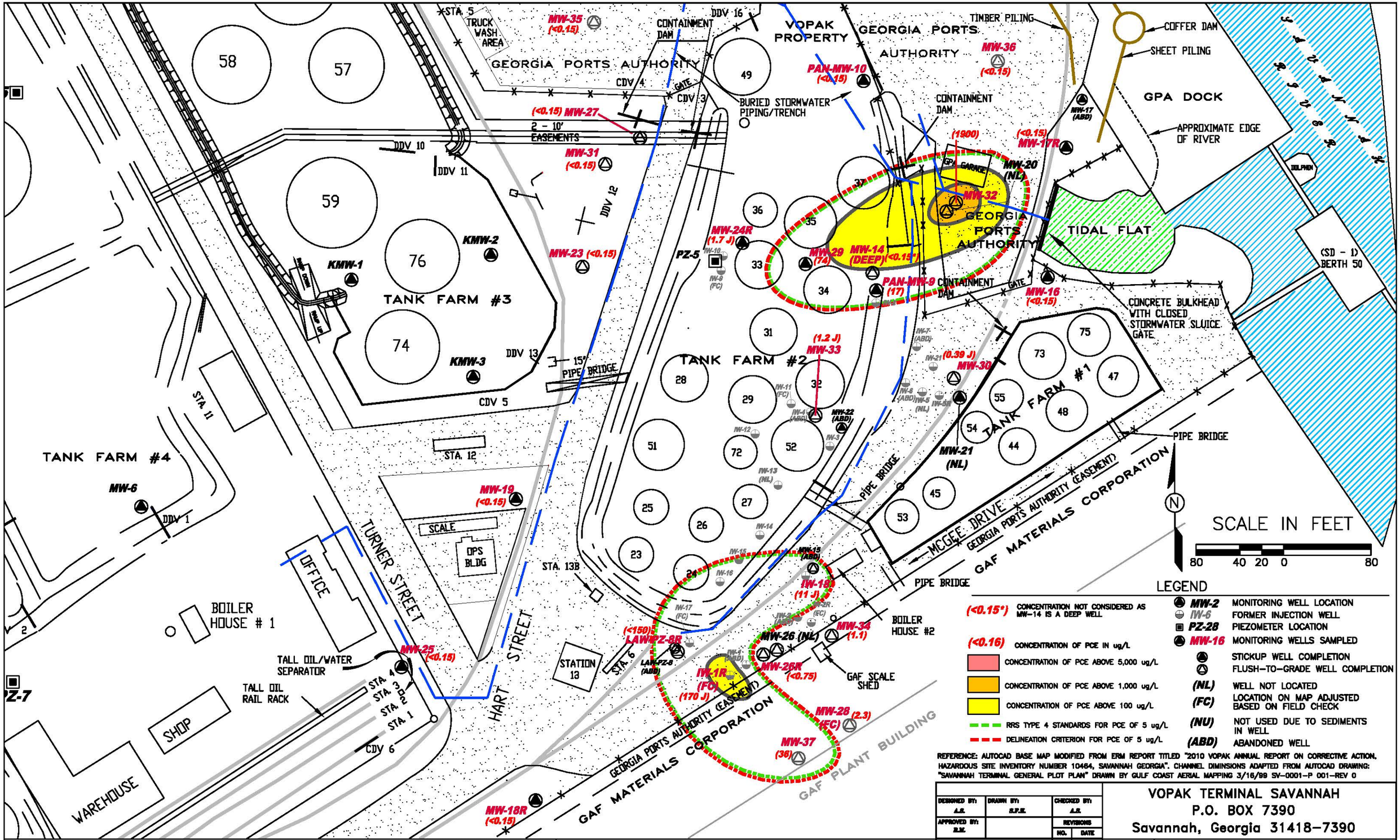
| DESIGNED BY: A.S. | DRAWN BY: S.P.E. | CHECKED BY: A.S. |
|---|---|---|
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/17/2014 | FILE: 300080 - 7TH SEMI ANNUAL | SHEET NO.:




LEGEND

| | |
|---|---|
| (<0.15*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (<0.16) | CONCENTRATION OF PCE IN ug/L |
| | CONCENTRATION OF PCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF PCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF PCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR PCE OF 5 ug/L |
| | DELINEATION CRITERION FOR PCE OF 5 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (NU) | NOT USED DUE TO SEDIMENTS IN WELL |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10484, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-4:
# PCE ISOCONCENTRATION MAP
# OCTOBER 13-17, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.E. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
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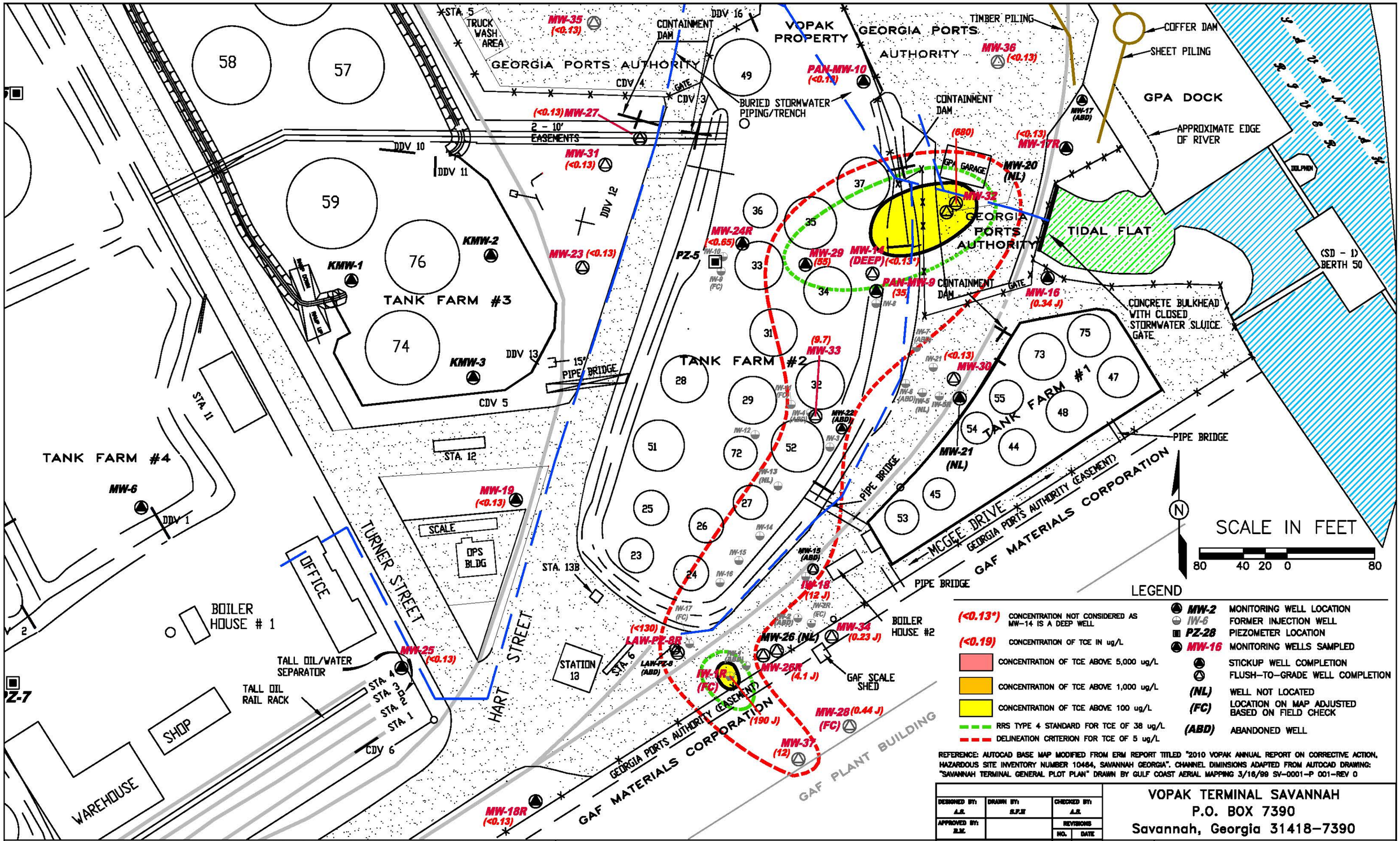
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 11/06/2014 | 390080 - 7TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.13*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (<0.19) | CONCENTRATION OF TCE IN ug/L |
| | CONCENTRATION OF TCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF TCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF TCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR TCE OF 38 ug/L |
| | DELINEATION CRITERION FOR TCE OF 5 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-5:
# TCE ISOCONCENTRATION MAP
# OCTOBER 13-17, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

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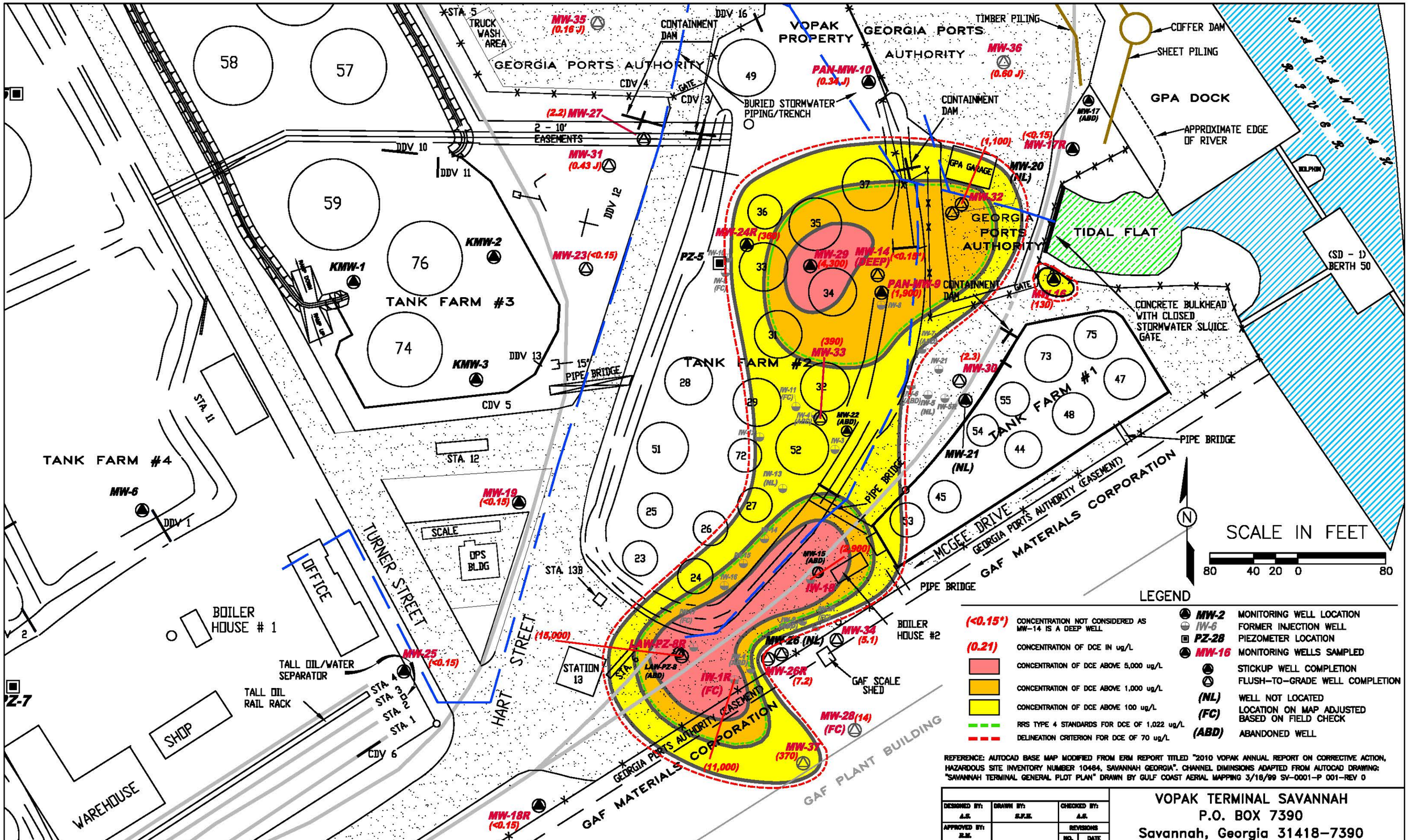
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/06/2014 | FILE: 390080 - 7TH SEMI-ANNUAL RPT | SHEET NO.:




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10484, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-6:
# CIS-1, 2 DCE ISOCONCENTRATION MAP
# OCTOBER 13-17, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

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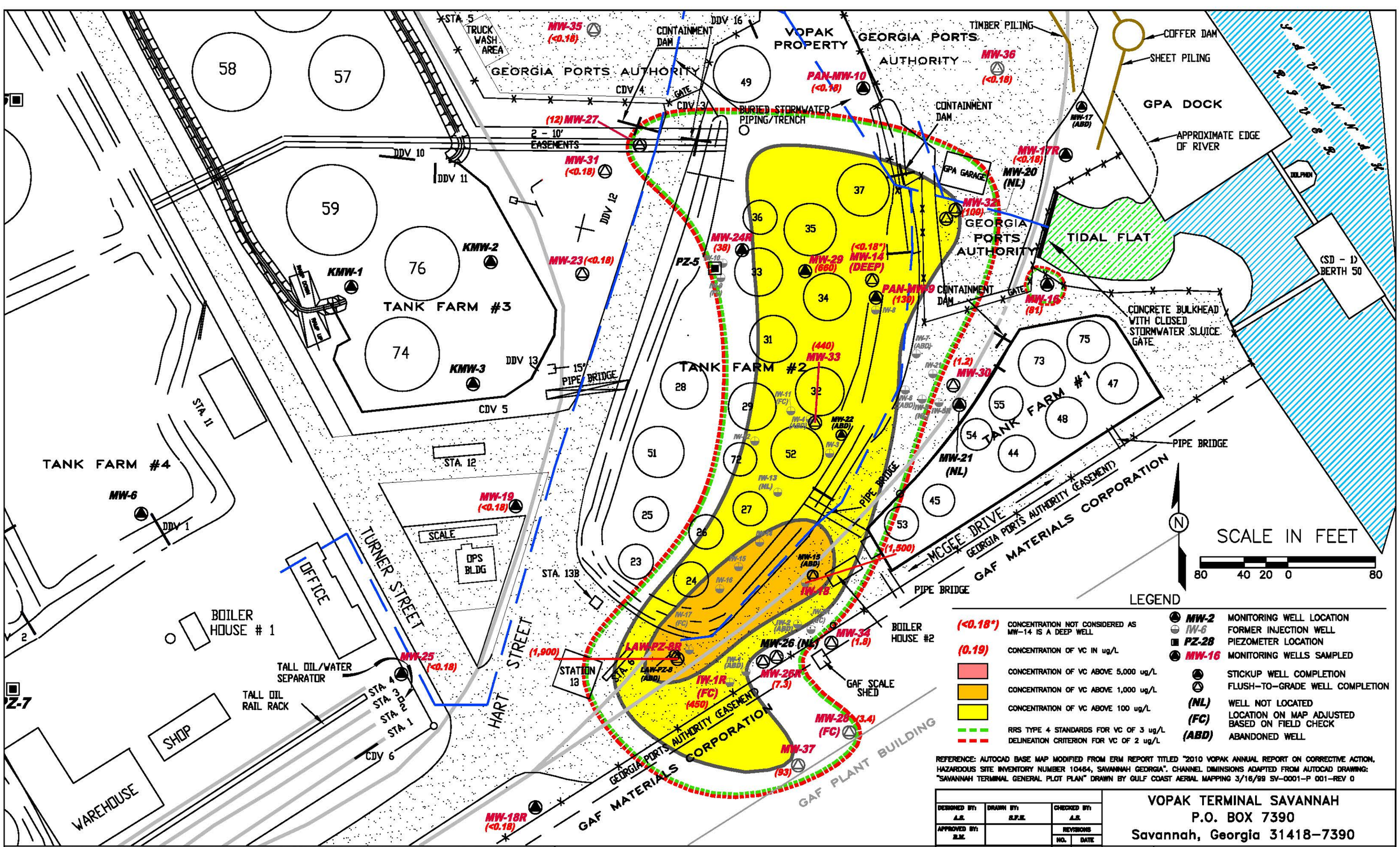
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/06/2014 | FILE: 390080 - 7TH SEMI-ANNUAL RPT | SHEET NO.:




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10484, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-7:
# VINYL CHLORIDE ISOCONCENTRATION MAP
# OCTOBER 13-17, 2014

| DESIGNED BY: A.S. | DRAWN BY: S.F.E. | CHECKED BY: A.S. |
|---|---|---|
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

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P.O. BOX 7390
Savannah, Georgia 31418-7390

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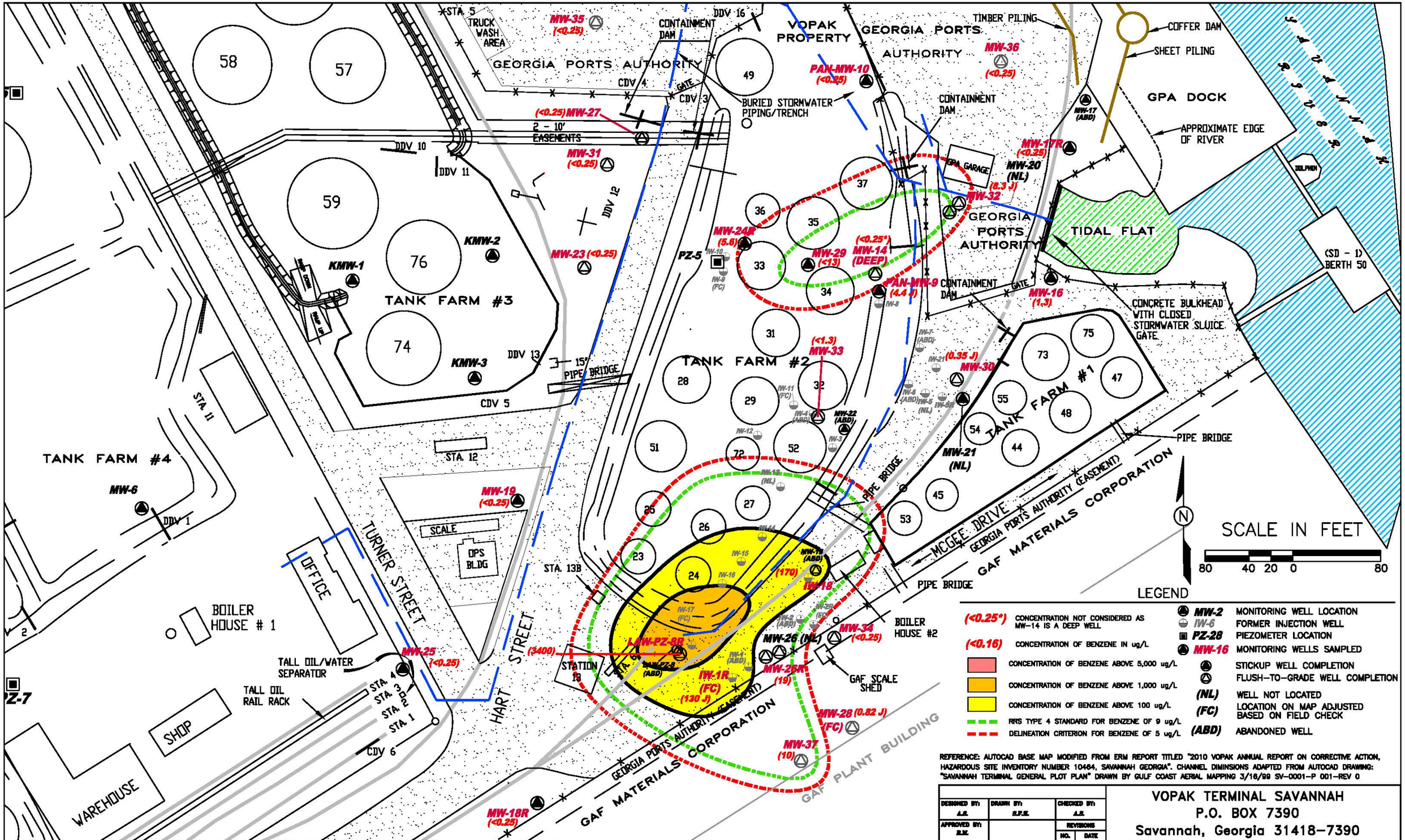
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: SEE BAR SCALE | DATE: 11/06/2014 | FILE: 390080 - 7TH SEMI-ANNUAL RPT | SHEET NO.: |
|---|---|---|---|




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-8:
# BENZENE ISOCONCENTRATION MAP
# OCTOBER 13-17, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.E. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

SEAL:

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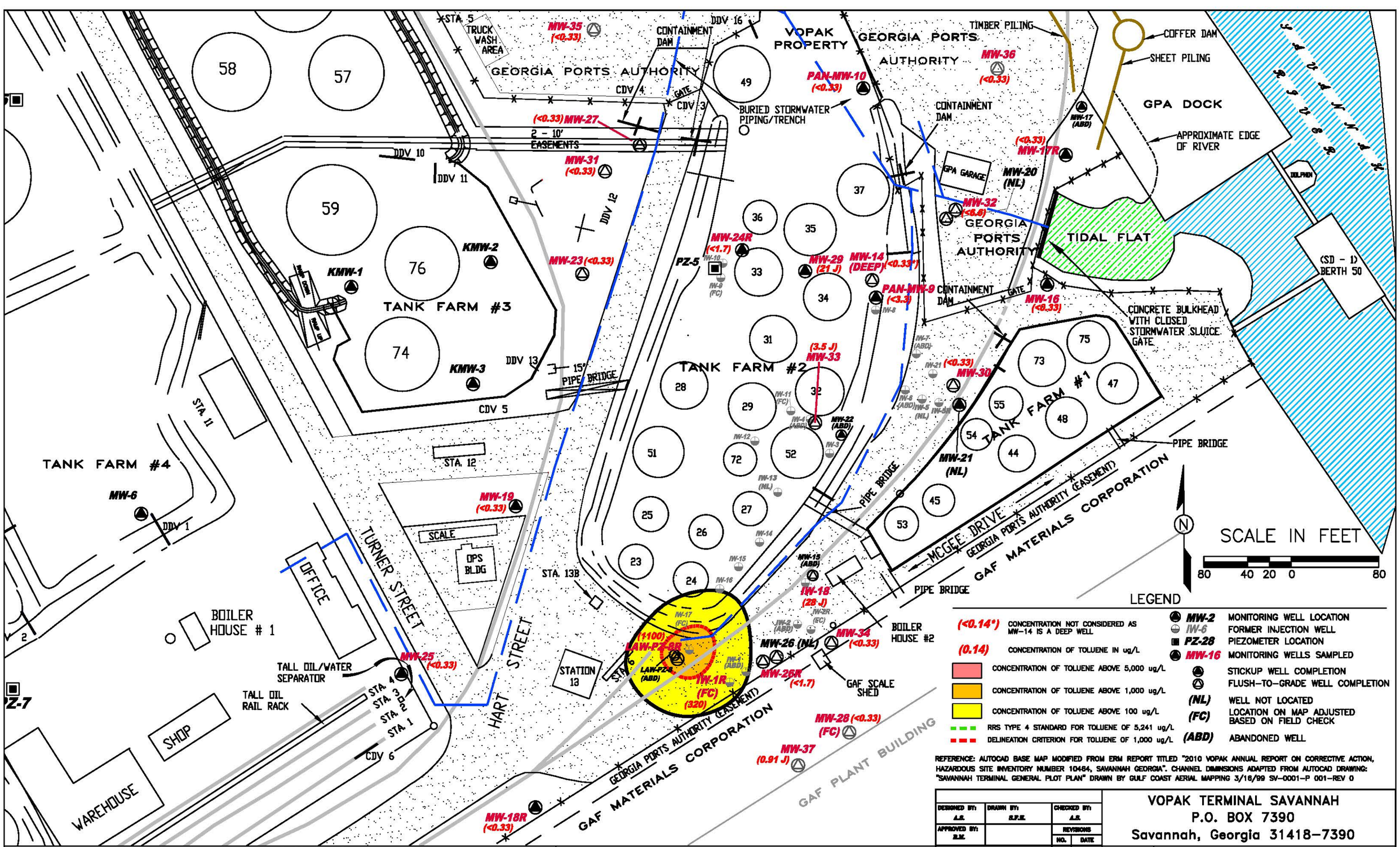
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 11/06/2014 | 300280 - 7TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.14*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.14) | CONCENTRATION OF TOLUENE IN ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR TOLUENE OF 5,241 ug/L |
| | DELINEATION CRITERION FOR TOLUENE OF 1,000 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10484, SAVANNAH GEORGIA". CHANNEL DIMENSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-9:
# TOLUENE ISOCONCENTRATION MAP
# OCTOBER 13-17, 2014

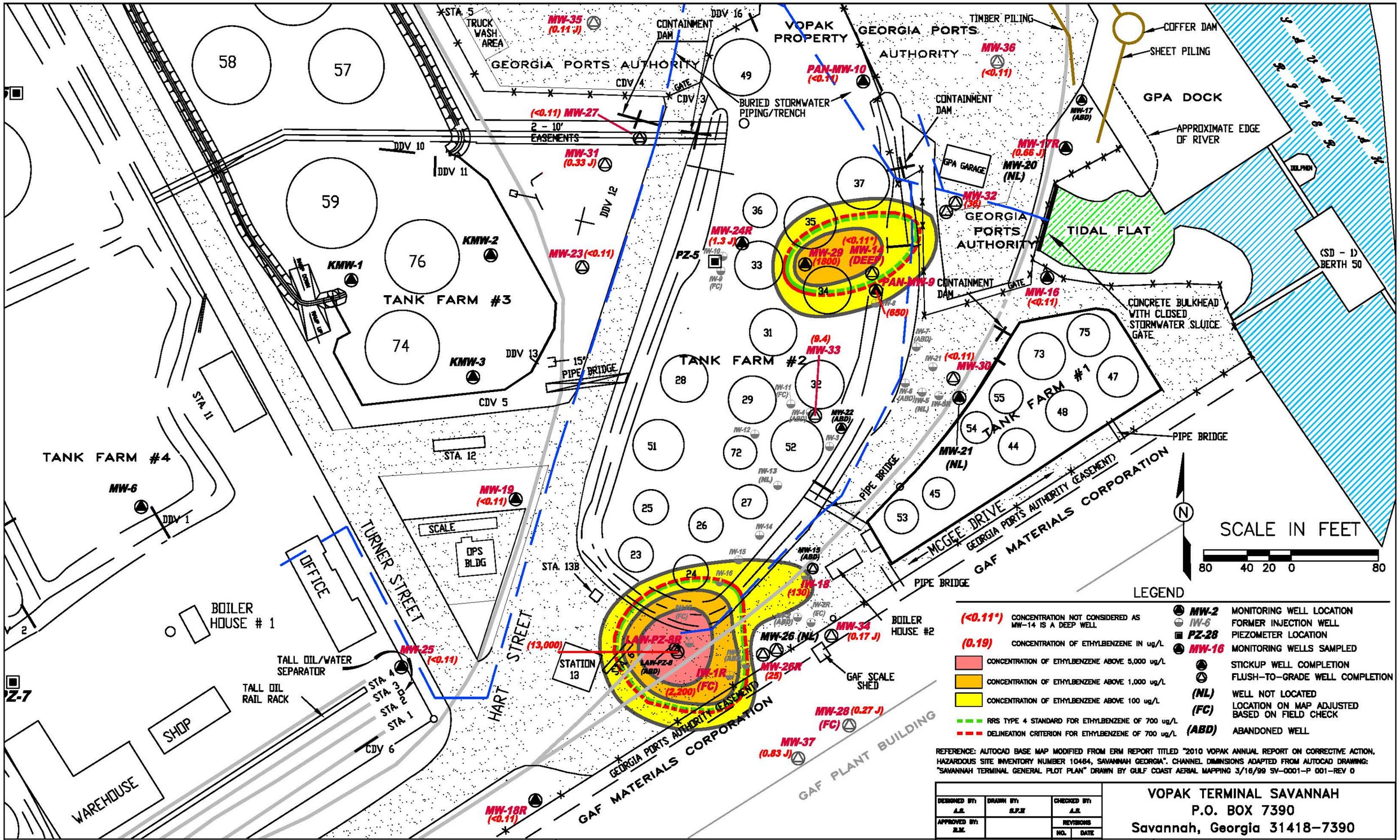
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.E. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/06/2014 | FILE: 390080 - 7TH SEMI-ANNUAL RPT | SHEET NO.:




LEGEND

| | |
|---|---|
| (<0.11*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.19) | CONCENTRATION OF ETHYLBENZENE IN ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR ETHYLBENZENE OF 700 ug/L |
| | DELINEATION CRITERION FOR ETHYLBENZENE OF 700 ug/L |

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMENSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-10:
# ETHYLBENZENE ISOCONCENTTRAION MAP
# OCTOBER 13-17, 2014

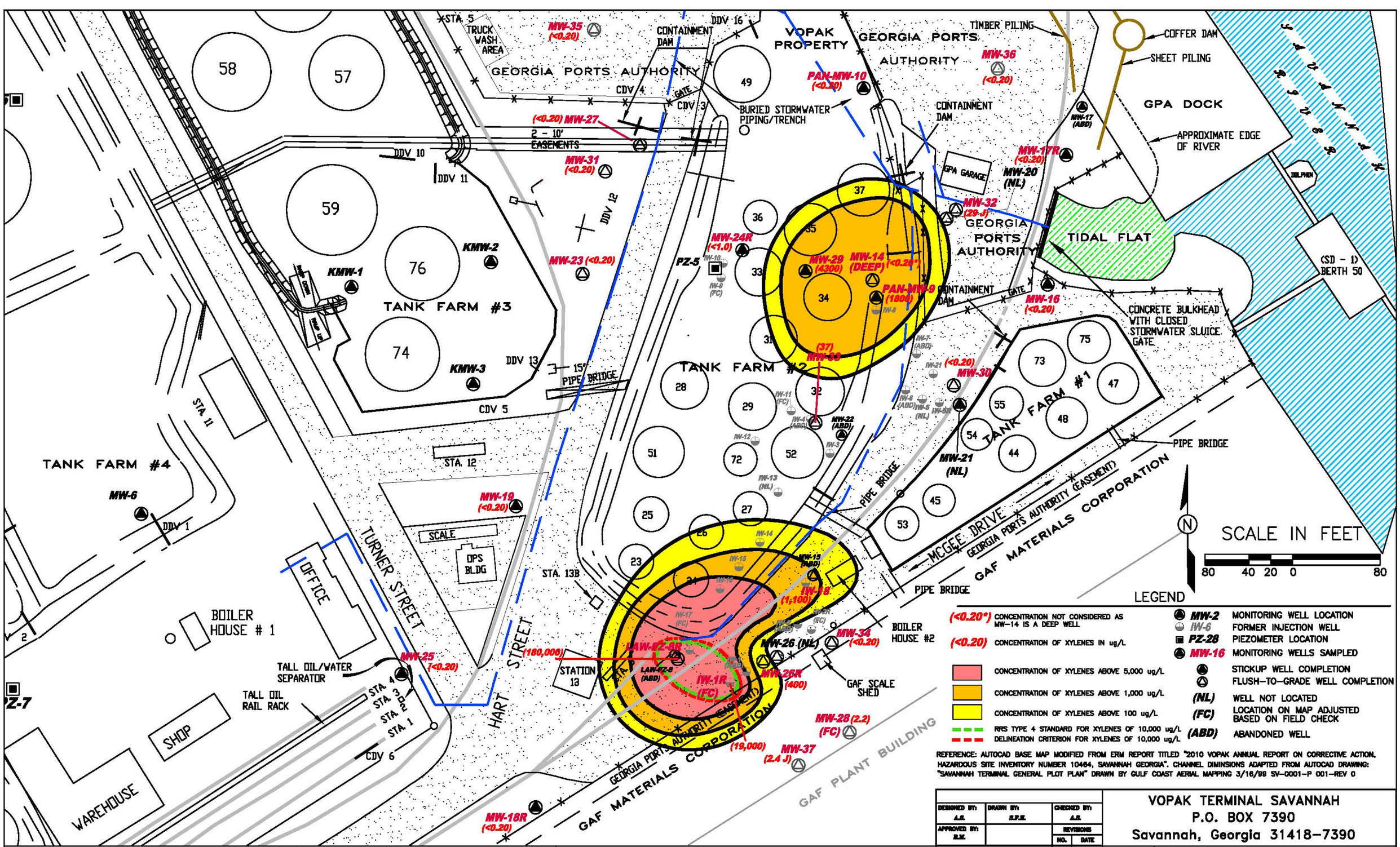
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

SEAL:

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/07/2014 | FILE: 390080 - 7TH SEMI-ANNUAL RPT | SHEET NO.:




LEGEND

| | | | |
|---|---|---|---|
| (<0.20*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | MW-2 | MONITORING WELL LOCATION |
| (<0.20) | CONCENTRATION OF XYLENES IN ug/L | IW-6 | FORMER INJECTION WELL |
| | | PZ-28 | PIEZOMETER LOCATION |
| | | MW-16 | MONITORING WELLS SAMPLED |
| | CONCENTRATION OF XYLENES ABOVE 5,000 ug/L | | STICKUP WELL COMPLETION |
| | CONCENTRATION OF XYLENES ABOVE 1,000 ug/L | | FLUSH-TO-GRADE WELL COMPLETION |
| | CONCENTRATION OF XYLENES ABOVE 100 ug/L | (NL) | WELL NOT LOCATED |
| | RRS TYPE 4 STANDARD FOR XYLENES OF 10,000 ug/L | (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| | DELINEATION CRITERION FOR XYLENES OF 10,000 ug/L | (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMENSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-11:
# TOTAL XYLENES ISOCONCENTRATION MAP
# OCTOBER 13-17, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.E. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 11/07/2014 | 390080 - 7TH SEMI-ANNUAL RPT | |

| MW-24R 10/14/2014 | | | |
|---|---|---|---|
| CHLORIDE | 30 mg/L | ALKALINITY | 67 mg/L |
| NITRATE | <0.025 mg/L | METHANE | 7500 ug/L |
| NITRITE | <0.025 mg/L | ETHANE | 0.79 ug/L |
| SULFATE | 12 mg/L | ETHENE | 16 ug/L |
| TOTAL IRON | 6.3 mg/L | CO2 | 520 mg/L |
| SULFIDE | 11 mg/L | NITROGEN | 5.8 mg/L |
| TOC | 240 mg/L | CO | <1.0 mg/L |

| MW-29 10/15/2014 | | | |
|---|---|---|---|
| CHLORIDE | 360 mg/L | ALKALINITY | 78 mg/L |
| NITRATE* | <0.050 mg/L | METHANE | 7700 ug/L |
| NITRITE* | 0.36 mg/L | ETHANE | 2.0 ug/L |
| SULFATE | 1.8 mg/L | ETHENE | 230 ug/L |
| TOTAL IRON | 53 mg/L | CO2 | 570 mg/L |
| SULFIDE | <10 mg/L | NITROGEN | 8.3 mg/L |
| TOC | 280 mg/L | CO | <1.0 mg/L |

| MW-32 10/17/2014 | | | |
|---|---|---|---|
| CHLORIDE | 190 mg/L | ALKALINITY | 89 mg/L |
| NITRATE | 4.1 mg/L | METHANE | 3000 ug/L |
| NITRITE | 0.22 mg/L | ETHANE | 5.6 ug/L |
| SULFATE | 120 mg/L | ETHENE | 7.4 ug/L |
| TOTAL IRON | 6.5 mg/L | CO2 | 330 mg/L |
| SULFIDE | <10 mg/L | NITROGEN | 14 mg/L |
| TOC | 10 mg/L | CO | <1.0 mg/L |

| MW-33 10/14/2014 | | | |
|---|---|---|---|
| CHLORIDE | 6.0 mg/L | ALKALINITY | 110 mg/L |
| NITRATE | <0.10 mg/L | METHANE | 6800 ug/L |
| NITRITE | <0.10 mg/L | ETHANE | 14 ug/L |
| SULFATE | 3.0 mg/L | ETHENE | 84 ug/L |
| TOTAL IRON | 20 mg/L | CO2 | 580 mg/L |
| SULFIDE | 11 mg/L | NITROGEN | 31 mg/L |
| TOC | 130 mg/L | CO | <1.0 mg/L |

| LAW-PZ-8R 10/17/2014 | | | |
|---|---|---|---|
| CHLORIDE | 59 mg/L | ALKALINITY | 240 mg/L |
| NITRATE | <0.13 mg/L | METHANE | 8100 ug/L |
| NITRITE | <0.13 mg/L | ETHANE | 61 ug/L |
| SULFATE | <1.0 mg/L | ETHENE | 67 ug/L |
| TOTAL IRON | 63 mg/L | CO2 | 440 mg/L |
| SULFIDE | <10 mg/L | NITROGEN | 8.9 mg/L |
| TOC | 140 mg/L | CO | <1.0 mg/L |

| MW-18R 10/14/2014 | | | |
|---|---|---|---|
| CHLORIDE | 20 mg/L | ALKALINITY | <5 mg/L |
| NITRATE | 0.22 mg/L | METHANE | 540 ug/L |
| NITRITE | <0.025 mg/L | ETHANE | 0.15 ug/L |
| SULFATE | 71 mg/L | ETHENE | 0.069 ug/L |
| TOTAL IRON | 0.67 mg/L | CO2 | 210 mg/L |
| SULFIDE | 19 mg/L | NITROGEN | 17 mg/L |
| TOC | 3.3 mg/L | CO | <1.0 mg/L |

SCALE IN FEET

80 40 20 0 80

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | | |
| MW-16 | MONITORING WELLS SAMPLED | | |
| (NL) | WELL NOT LOCATED | | |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | | |
| (ABD) | ABANDONED WELL | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10484, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.
* NITRATE/NITRITE SAMPLE FROM MW-29 WAS ANALYZED BEYOND LAB HOLD TIME.

# FIGURE 4-12:
# NATURAL ATTENUATION PARAMETERS MAP
# OCTOBER 13-17, 2014

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

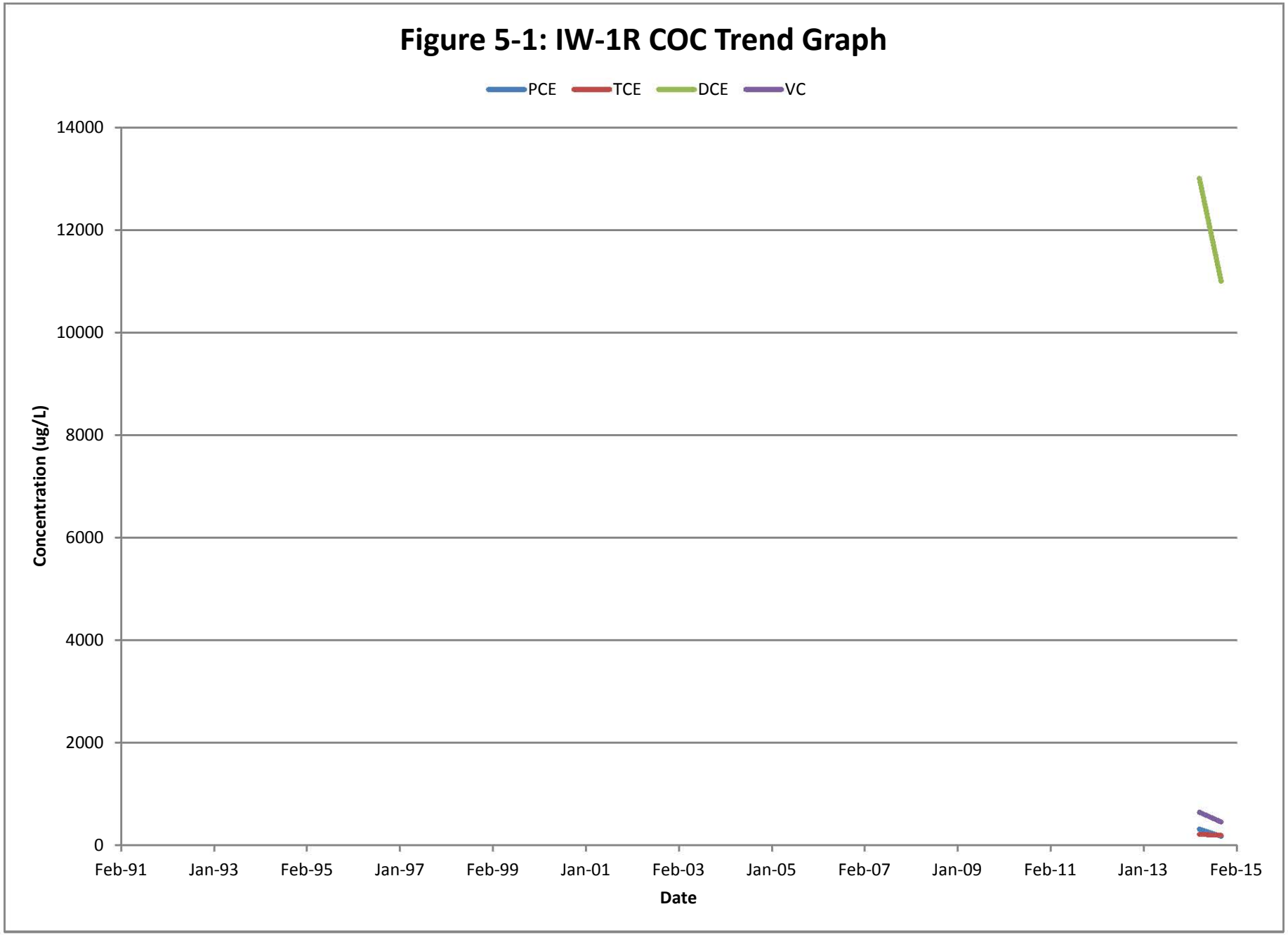
DESIGNED BY: A.S. | DRAWN BY: S.F.E. | CHECKED BY: A.S. | APPROVED BY: R.M.
REVISIONS: NO. | DATE

SEAL:

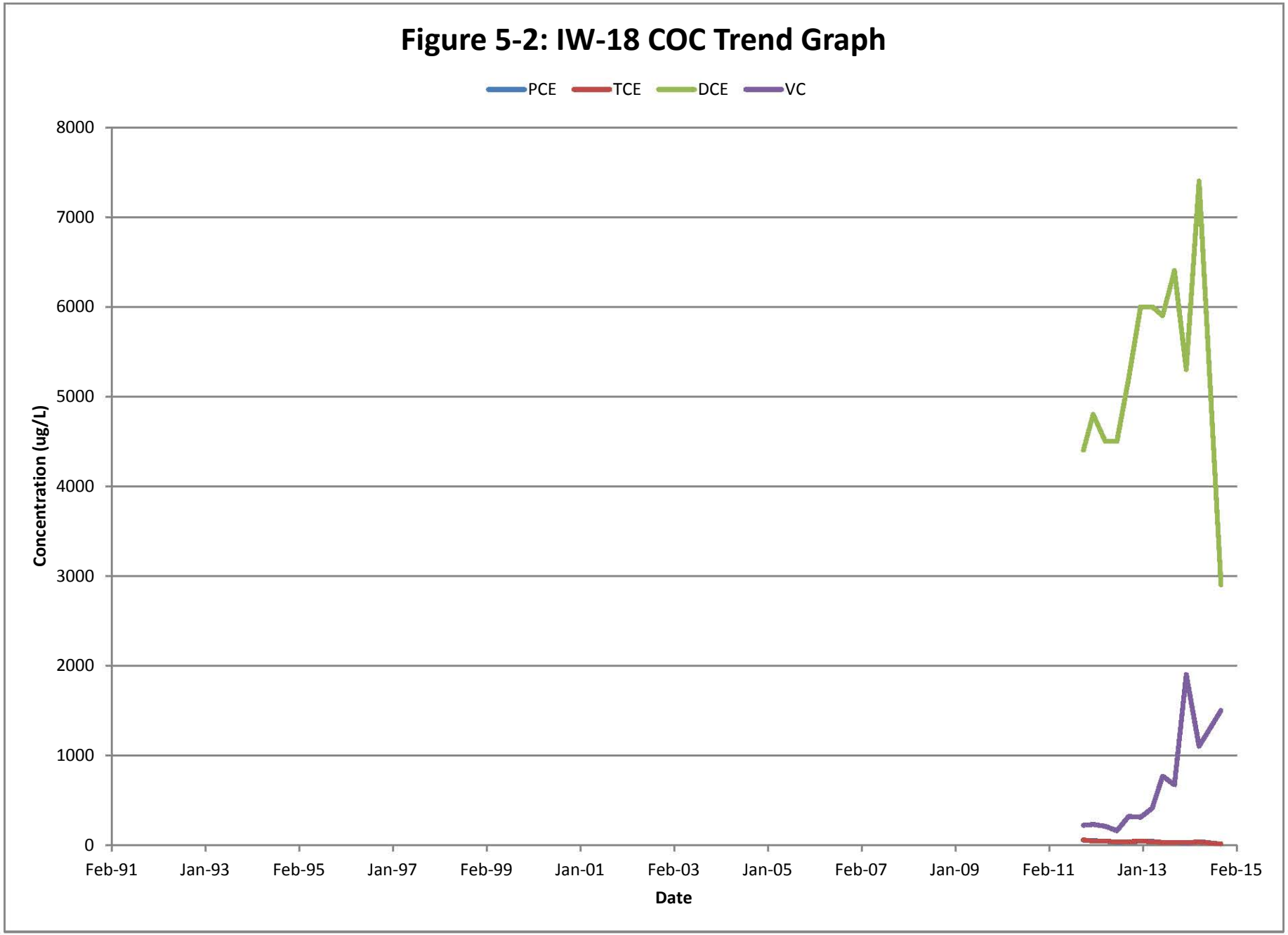
ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 11/17/2014 | FILE: 390080 - 7TH SEMI-ANNUAL RPT | SHEET NO.:

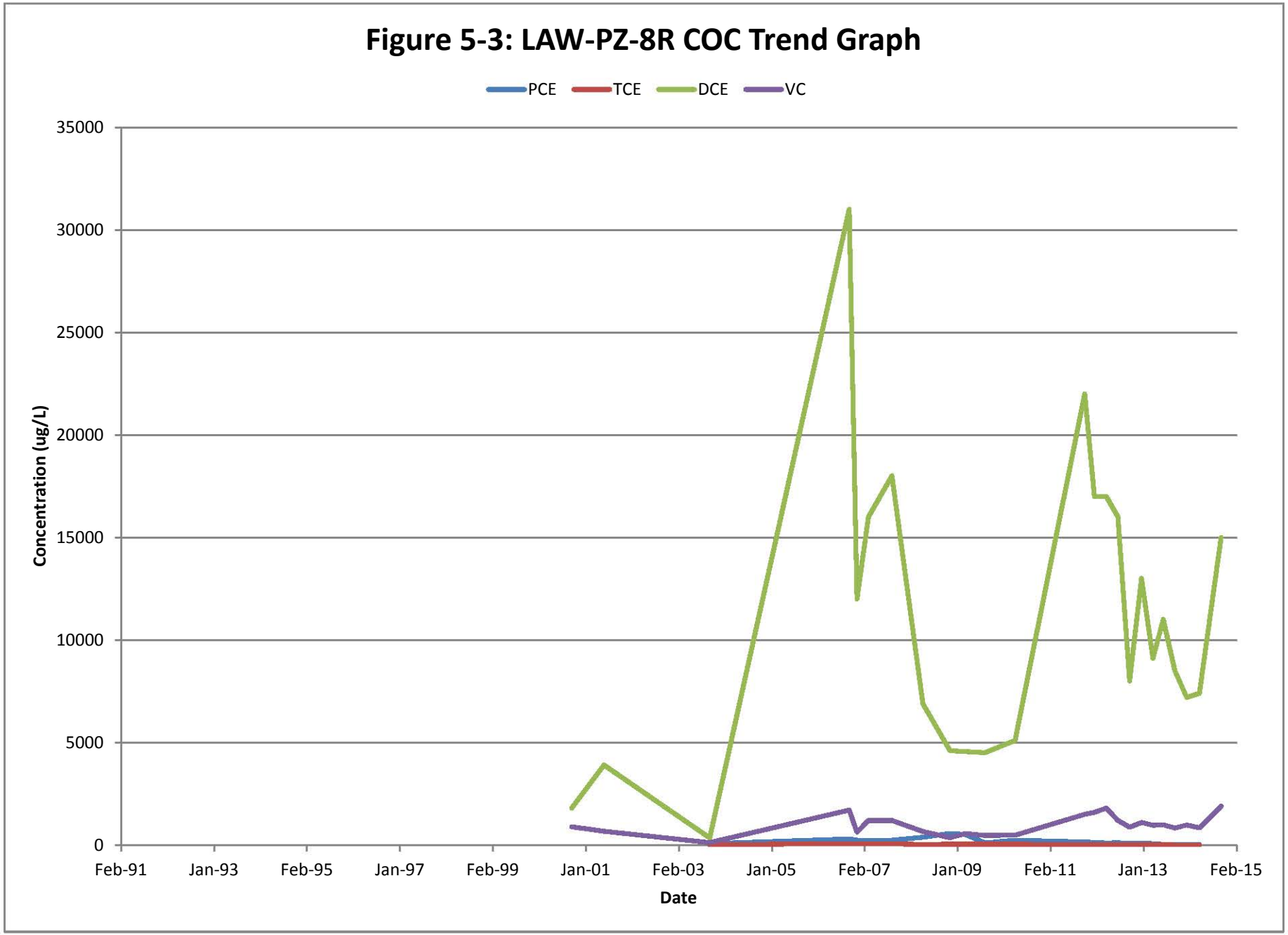
# Figure 5-1: IW-1R COC Trend Graph



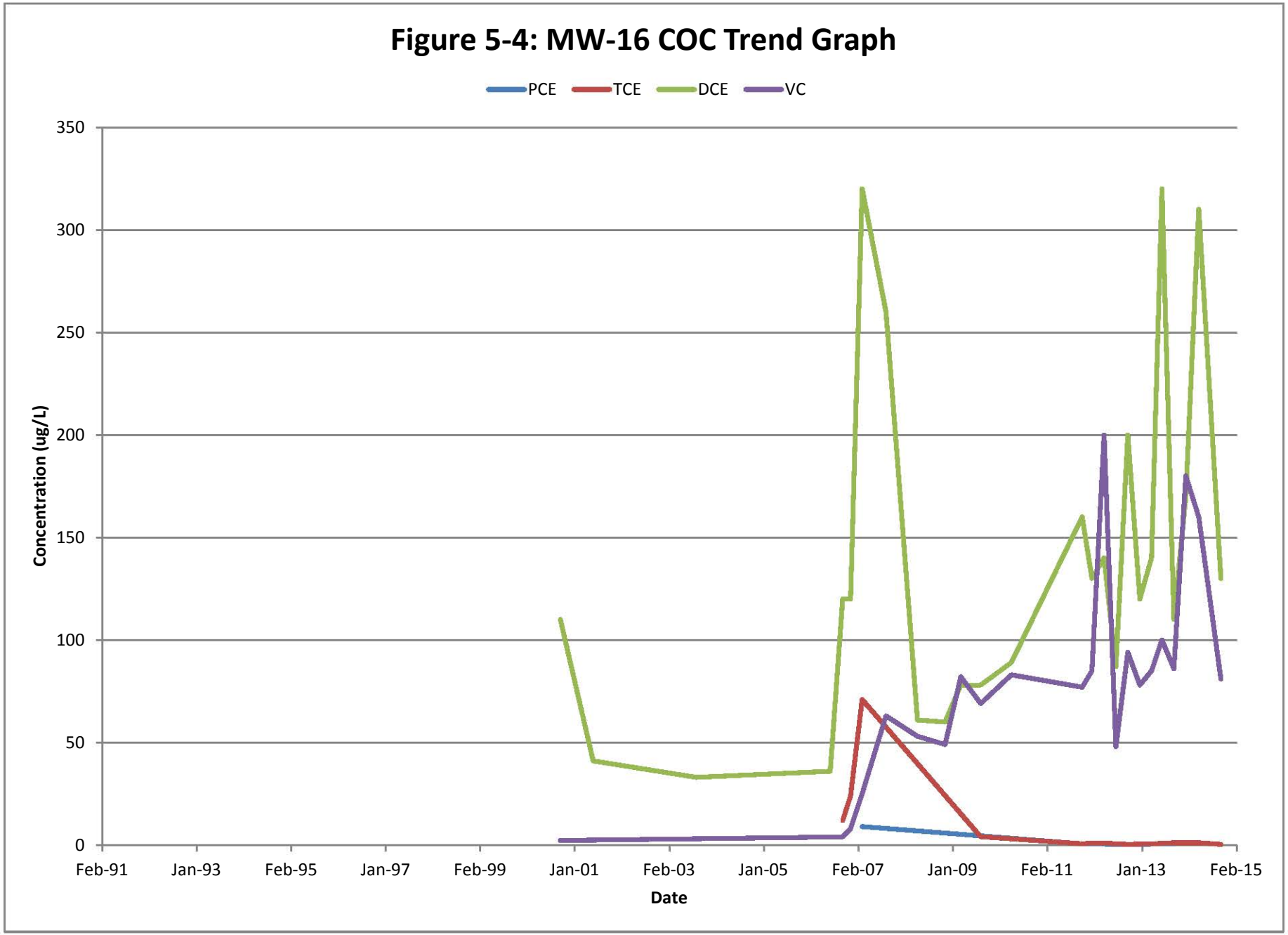
# Figure 5-2: IW-18 COC Trend Graph



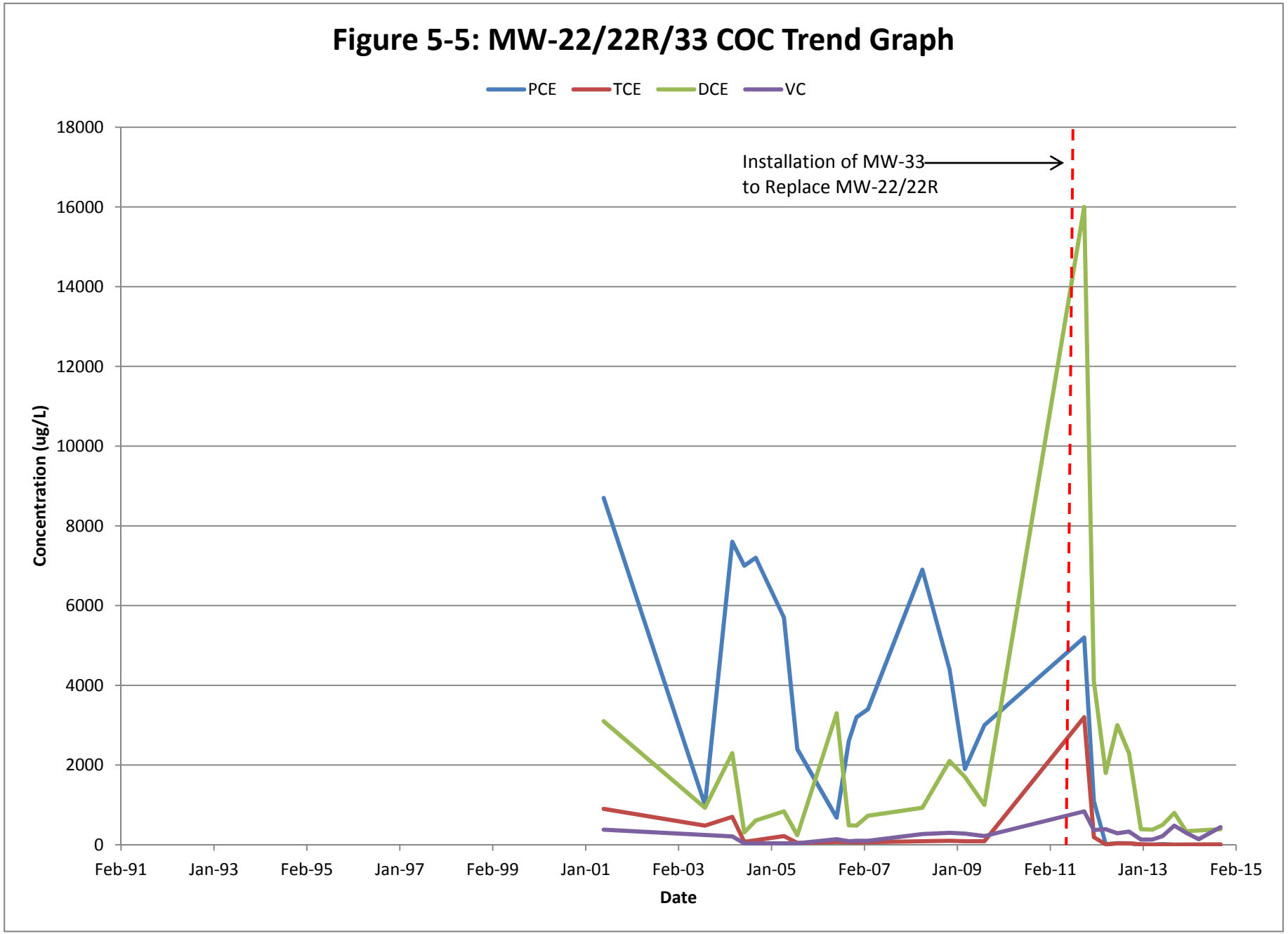
# Figure 5-3: LAW-PZ-8R COC Trend Graph



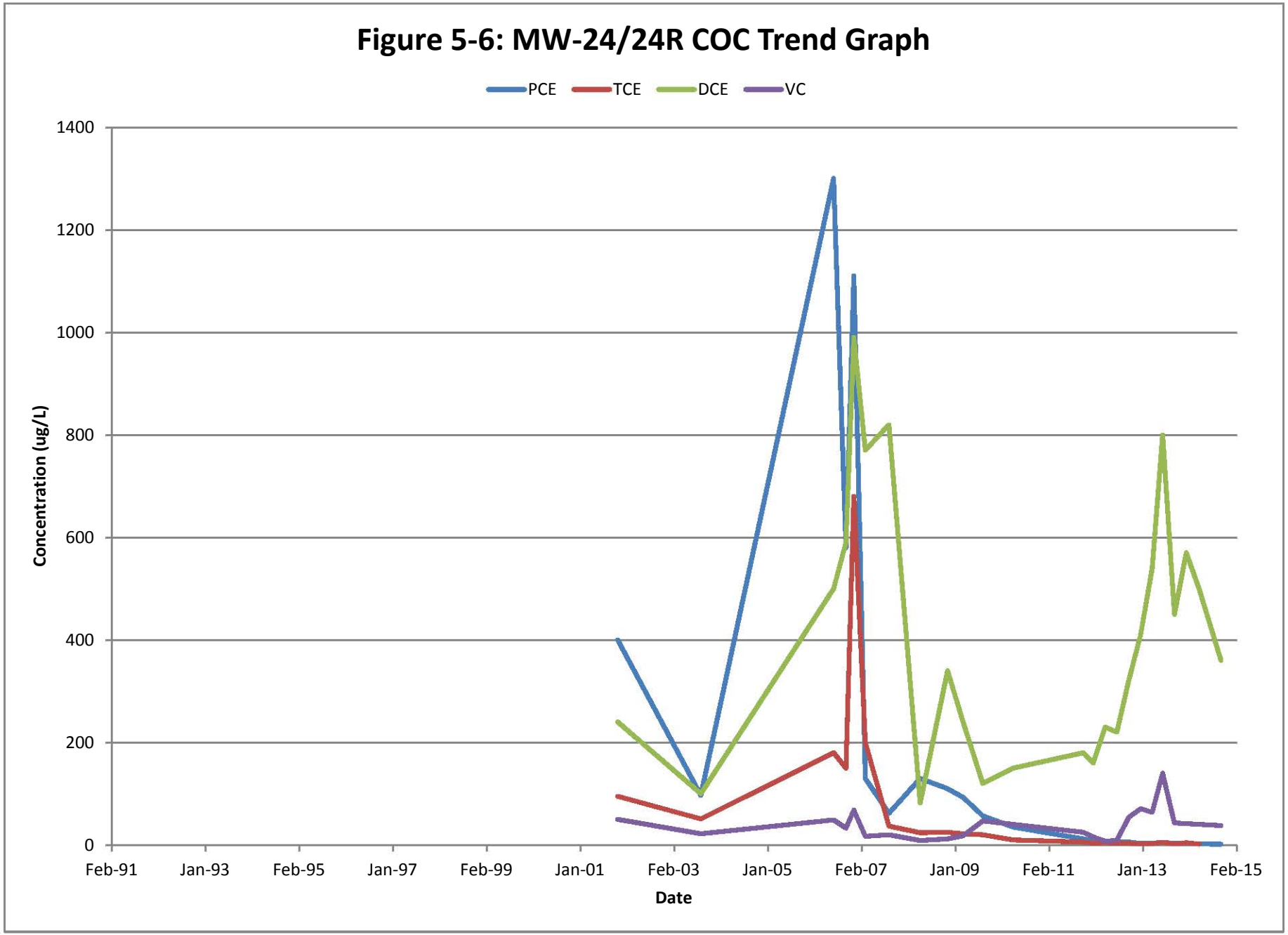
# Figure 5-4: MW-16 COC Trend Graph



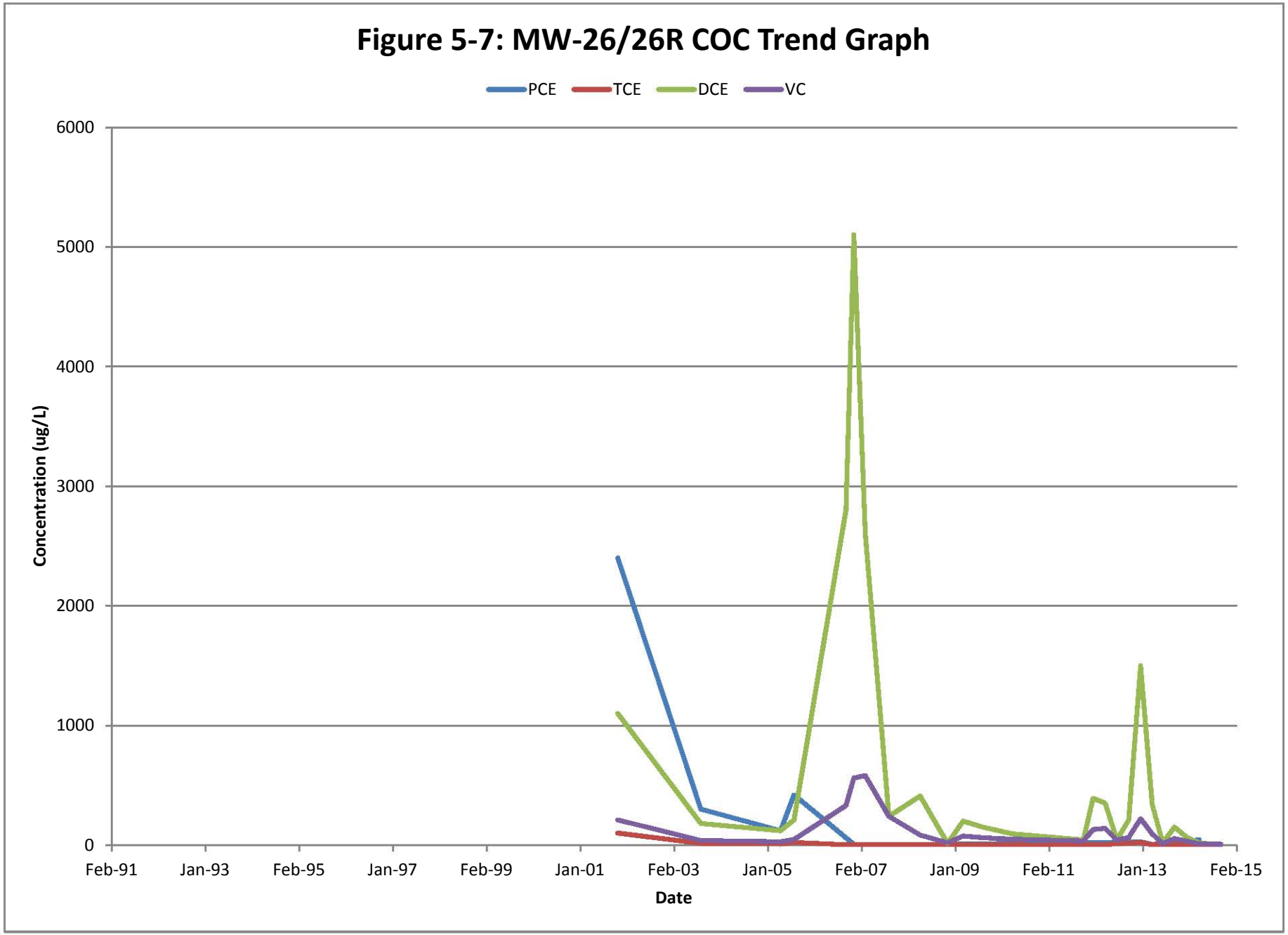
# Figure 5-5: MW-22/22R/33 COC Trend Graph



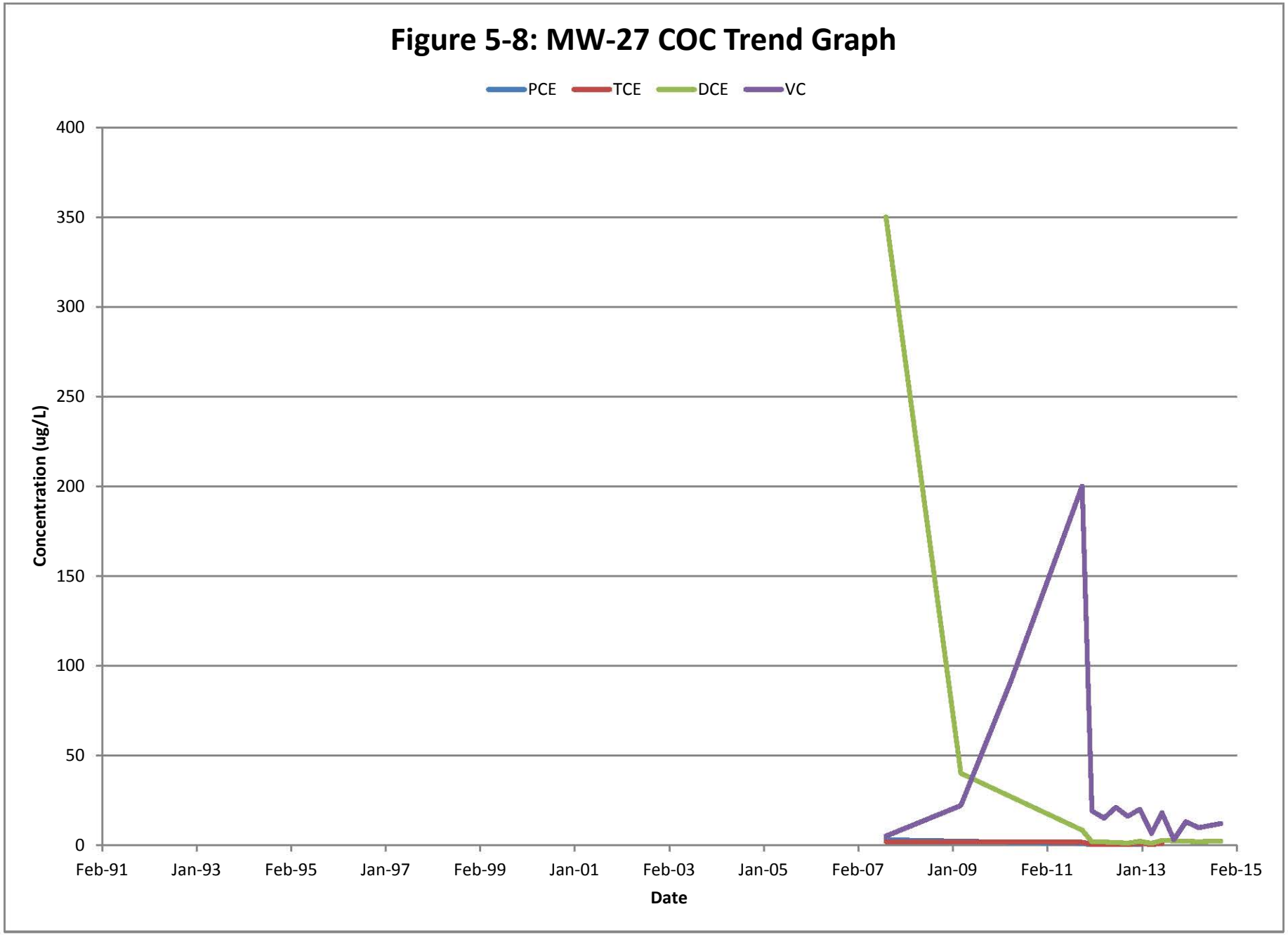
# Figure 5-6: MW-24/24R COC Trend Graph



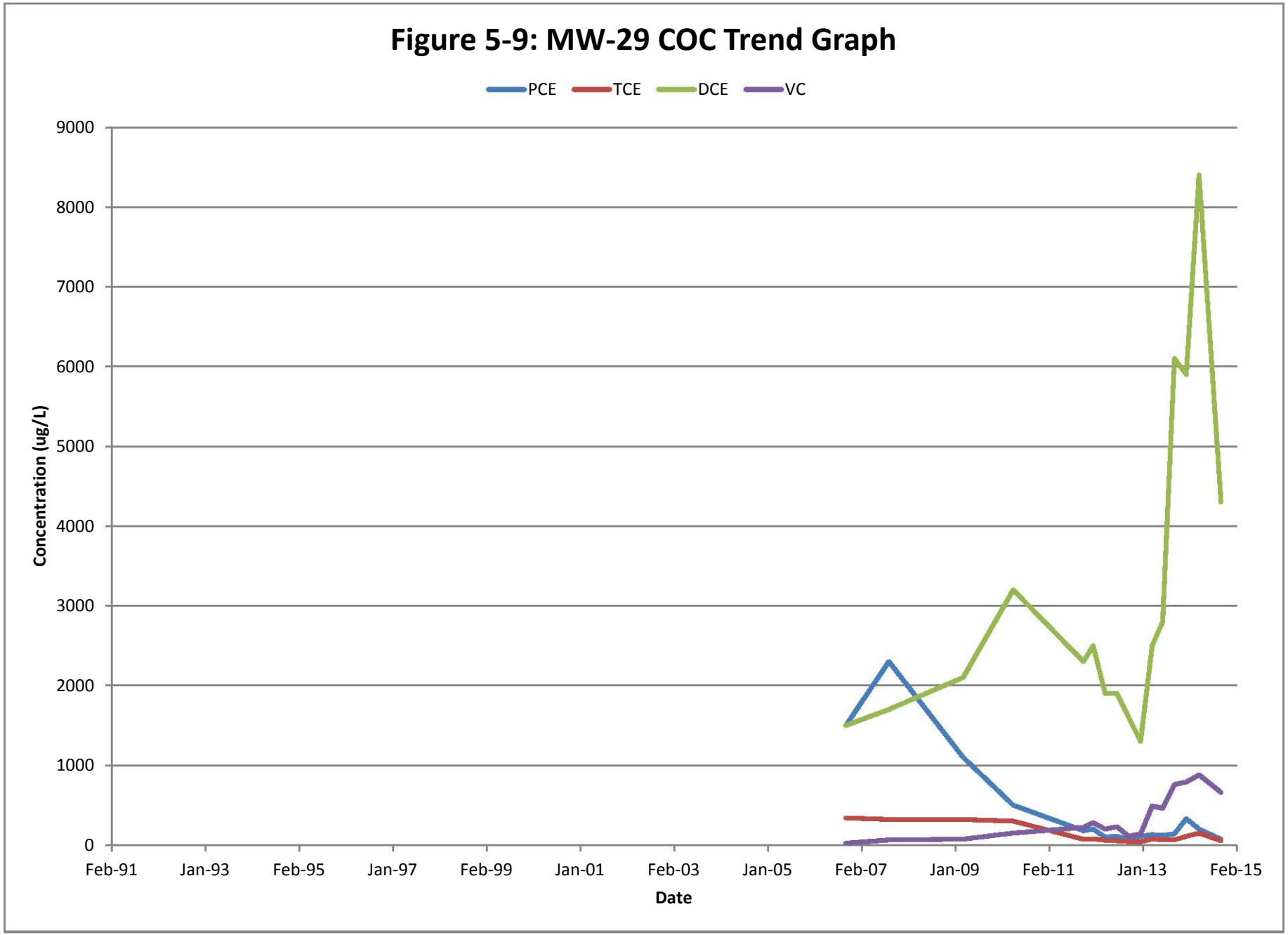
# Figure 5-7: MW-26/26R COC Trend Graph



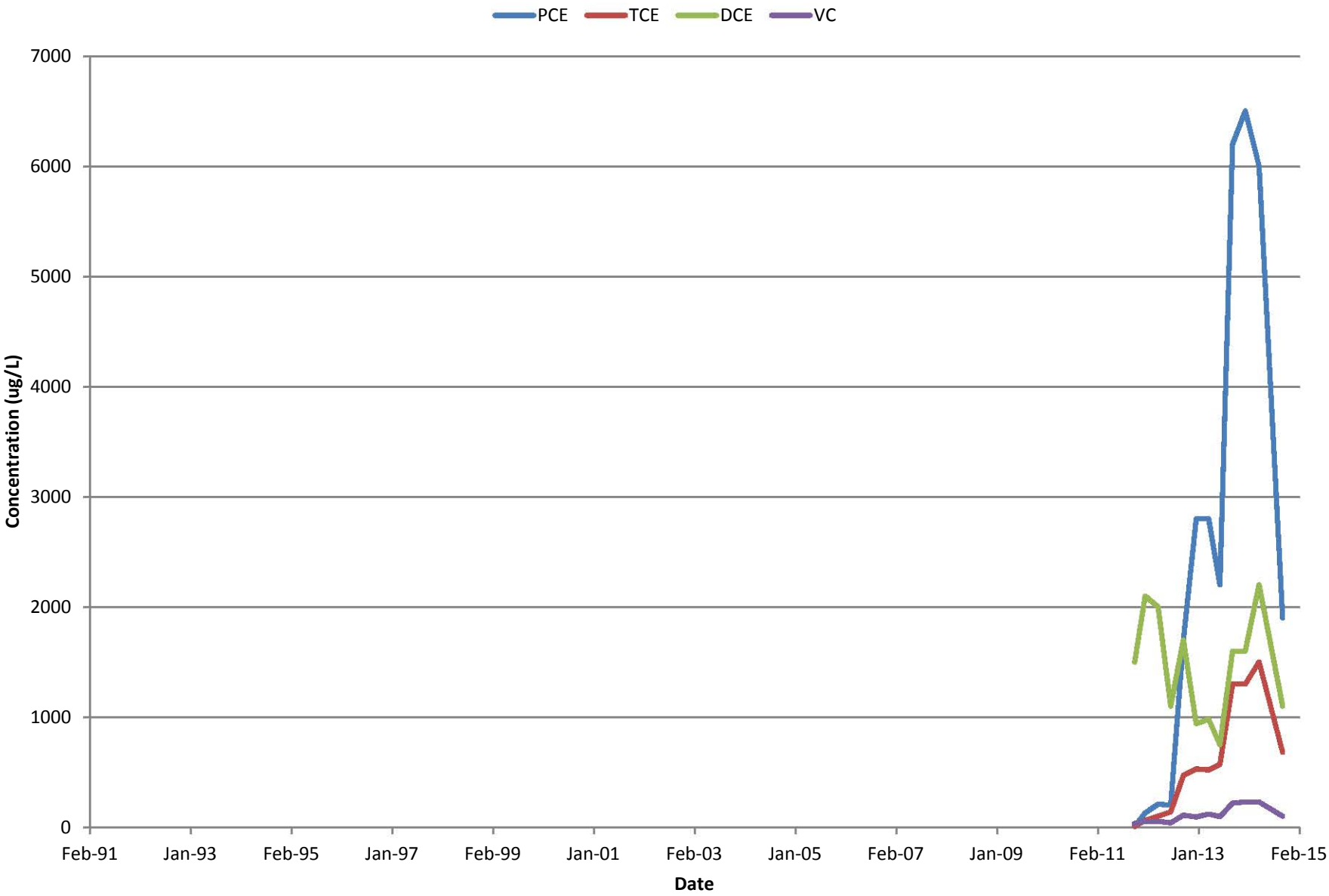
# Figure 5-8: MW-27 COC Trend Graph



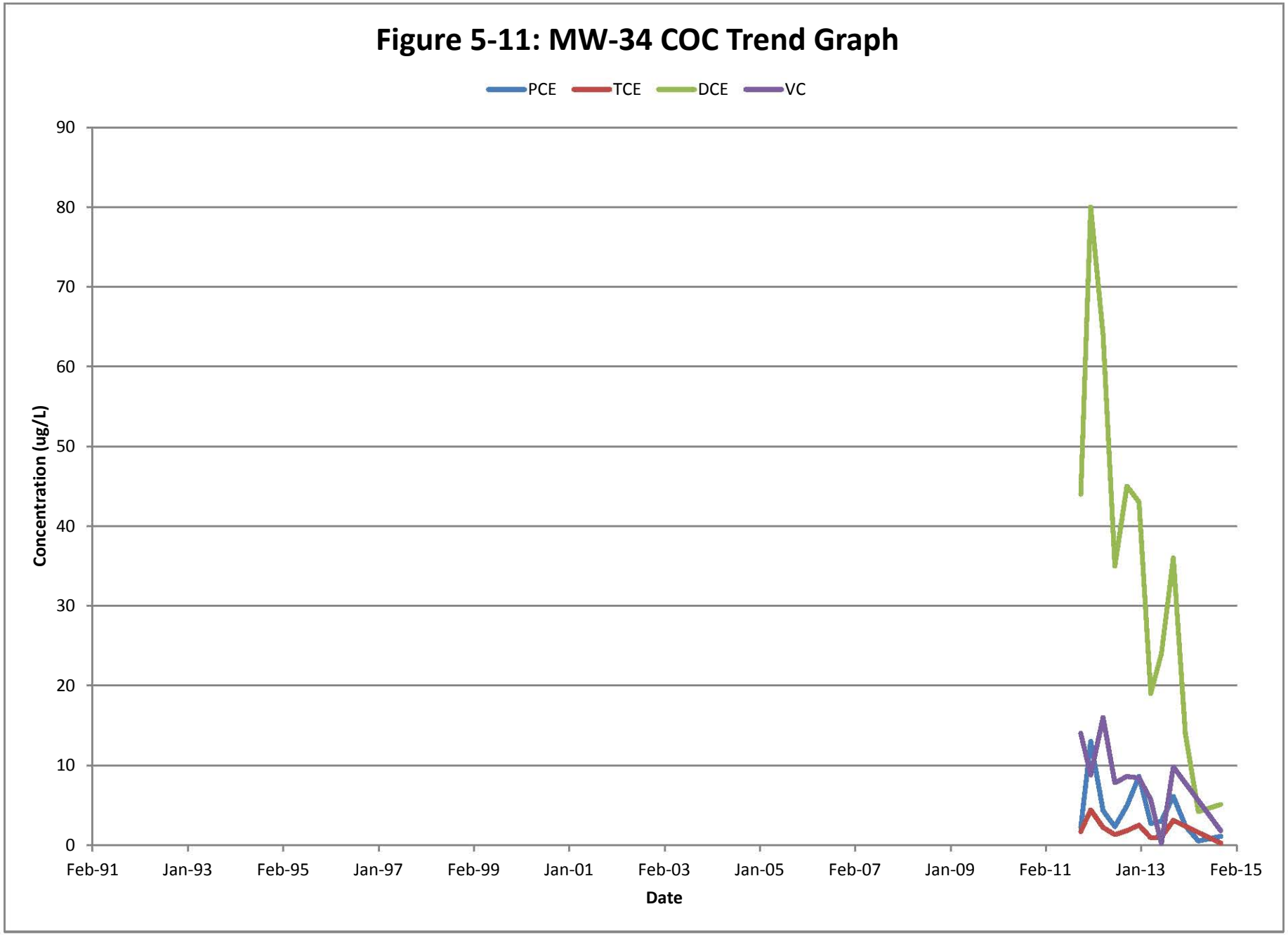
# Figure 5-9: MW-29 COC Trend Graph



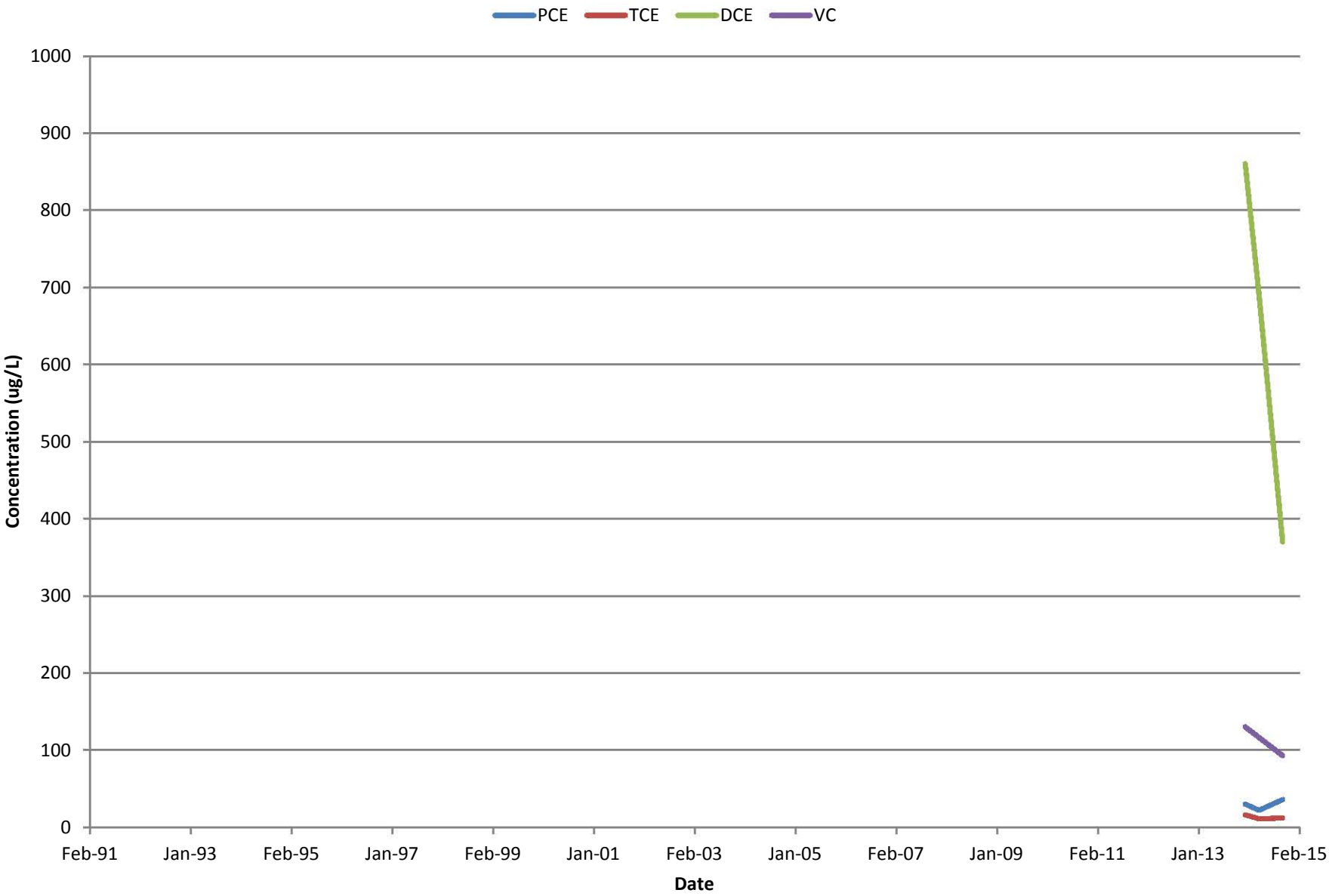
## Figure 5-10: MW-32 COC Trend Graph



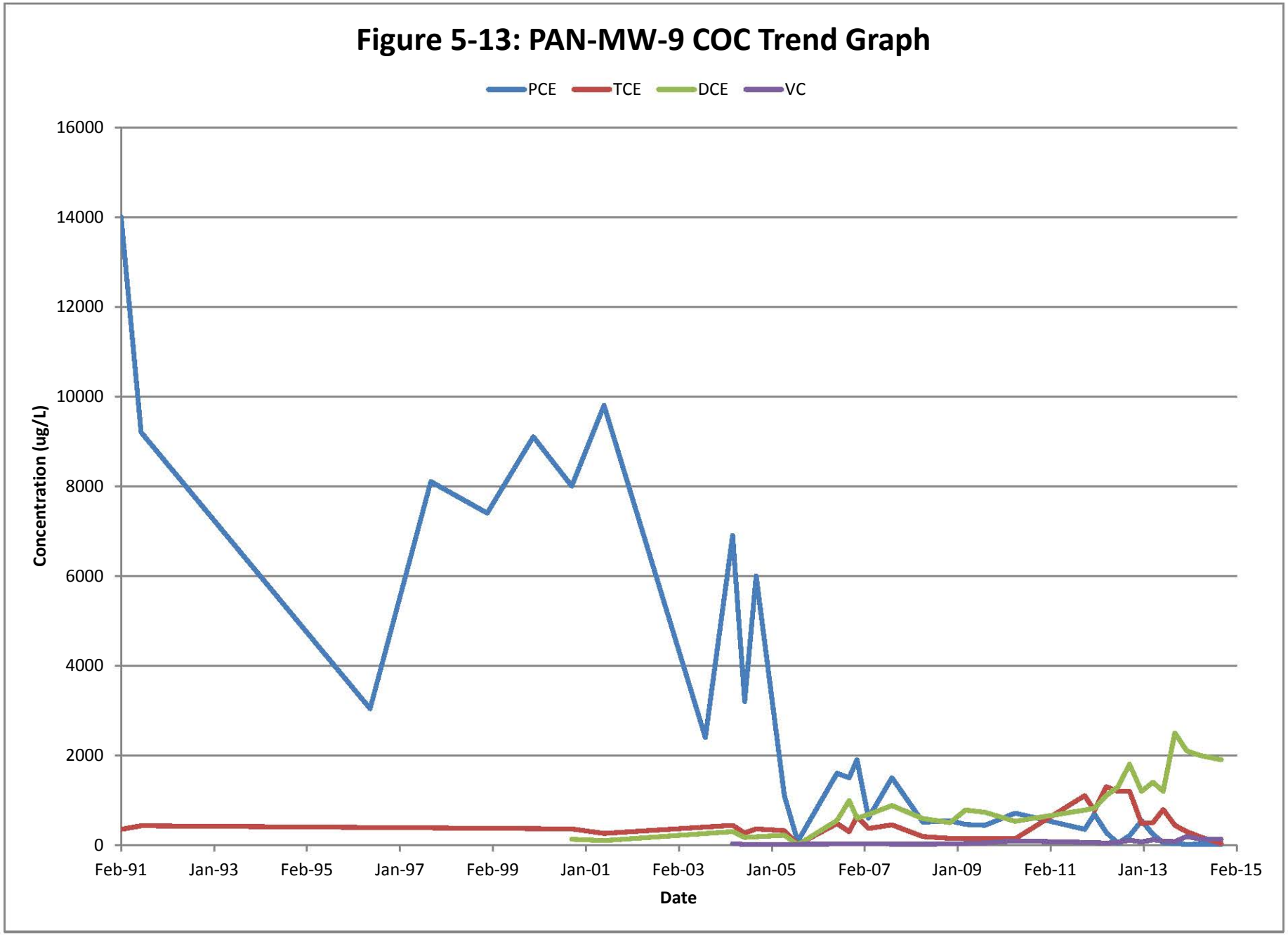
# Figure 5-11: MW-34 COC Trend Graph



# Figure 5-12: MW-37 COC Trend Graph



# Figure 5-13: PAN-MW-9 COC Trend Graph



VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# SEVENTH SEMI-ANNUAL PROGRESS REPORT

# PHOTOGRAPHS

Photo 1: Well IW-1 being filled with Bentonite Grout Slurry

Photo 2: Completed IW-1 Abandonment

Photo 3: Well IW-2 Excavation filled with solidified Bentonite Grout Slurry

Photo 4: Completed IW-2 Abandonment

Photo 5: Well IW-7 Borehole filled with Bentonite Grout Slurry

Photo 6: Completed IW-6 Abandonment

Photo 7: Completed IW-7 Abandonment

Photo 8: Completed Replacement Well Vault/Concrete Pad at LAW-PZ-8R

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# SEVENTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT A

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 2

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: IW-1R

DATE: 10/17/19 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny ~72°F ~3 mph wind NE

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 9.90 FT. to 19.90 FT.

INITIAL WATER LEVEL (BTOC): 3.21 FT. | TIME: 10:50 am | BTOC WELL SCREEN INTERVAL: 8.90 FT. to 18.90 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 18.9 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -1 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 37.2

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 0 | 25.21 | 4.17 | 89 | 0.621 | 0.0 | 1.84 | N/A | water appears clear |
| 11:05 | 480 | 25.91 | 4.19 | 76 | 0.642 | 0.0 | 1.05 | N/A | from first pull. |
| 11:10 | 1000 | 26.20 | 4.20 | 69 | 0.653 | 0.0 | 0.75 | N/A | |
| 11:15 | 1560 | 26.37 | 4.19 | 64 | 0.665 | 0.0 | 0.66 | N/A | |
| 11:20 | 2000 | 26.53 | 4.18 | 61 | 0.664 | 0.0 | 0.58 | N/A | |
| 11:25 | 2500 | 26.82 | 4.19 | 58 | 0.665 | 0.0 | 0.51 | N/A | |
| | | | | | | | | 4.10 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 11:27

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 14 |
| Final tubing depth (ft.) BTOC | 14 |
| Initial pump speed | 2.96 |
| Time pump speed was initialized | 10:55 |
| Pump speed at flow into cylinder | 2.96 |
| Started new roll of tubing at | — |
| Three well volume (mL) | - |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: IW-18

DATE: 10/17/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 68° F Clear 10+ WMd

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 3.05 FT. TIME: 7:41 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 19.3 FT. | MEASURED TOTAL WELL DEPTH (BTOC 19.28 FT. | HEIGHT OF STICK-UP: 0.33 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 2.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| ~~7:56~~ SM | 0 | 17.49 | 4.99 | 24 | 1.01 | 147 | 2.48 | N/A | |
| 8:01 | 240 | 17.92 | 4.94 | 15 | 1.02 | 136 | 1.75 | N/A | |
| 8:06 | 500 | 18.13 | 4.90 | 16 | 1.02 | 177 | 1.41 | N/A | |
| 8:11 | 700 | 18.30 | 4.91 | 12 | 1.03 | 205 | 1.42 | N/A | |
| 8:16 | ~~700~~ SM | 18.51 | 4.74 | 25 | 1.04 | 187 | 1.10 | N/A | V = 900 |
| 8:21 | 1140 | 18.84 | 4.84 | 20 | 1.05 | 168 | 1.00 | N/A | |
| 8:26 | 1400 | 19.20 | 4.81 | 21 | 1.06 | 152 | 0.91 | N/A | |
| 8:31 | 1590 | 18.77 | 4.73 | 20 | 1.03 | 154 | 0.80 | 4.00 | |
| | | | | | | | | | |
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COMMENTS:

SAMPLE COLLECTION TIME: 8:32

PREPARED BY: stelmy

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 15 |
| Final tubing depth (ft.) BTOC | 15 |
| Initial pump speed | 3.10 |
| Time pump speed was initialized | 7:45 |
| Pump speed at flow into cylinder | 7:10 |
| Started new roll of tubing at | |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Vault filled with water when opening vault.

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: LAW-PZ-8R

DATE: 10/17/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: cloudy ~ 68°F ~ 3 mph wind NE

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 1.80 FT. to 11.80 FT.

INITIAL WATER LEVEL (BTOC): 1.74 FT. | TIME: 9:01 | BTOC WELL SCREEN INTERVAL: 1.32 FT. to 11.32 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 11.1 FT. | MEASURED TOTAL WELL DEPTH (BTO FT. | HEIGHT OF STICK-UP: -0.476 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM BENEATH OUTER CAP: NM BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:17 | 0 | 18.73 | 5.63 | -7 | 0.870 | 348 | 2.20 | N/A | clear tan/grey |
| 9:22 | 660 | 21.90 | 5.62 | -46 | 0.875 | 168 | 1.16 | N/A | |
| 9:27 | 1140 | 22.75 | 5.61 | -52 | 0.895 | 471 | 0.89 | N/A | |
| 9:32 | 1680 | 22.53 | 5.61 | -56 | 0.914 | 371 | 0.76 | N/A | |
| 9:37 | 2320 | 22.75 | 5.62 | -61 | 0.929 | 293 | 0.66 | N/A | |
| 9:42 | 2800 | 22.93 | 5.62 | -64 | 0.940 | 227 | 0.61 | N/A | |
| 9:47 | 3380 | 23.25 | 5.63 | -69 | 0.949 | 182 | 0.56 | N/A | |
| 9:52 | 3880 | 23.38 | 5.62 | -68 | 0.956 | 154 | 0.53 | N/A | |
| 9:57 | 4420 | 23.70 | 5.65 | -72 | 0.963 | 129 | 0.51 | N/A | |
| 9:59 | | | | | | | | 1.95 | |

COMMENTS: | SAMPLE COLLECTION TIME: 10:03 | PREPARED BY: SHeim

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 6.5 |
| Final tubing depth (ft.) BTOC | 6.6 |
| Initial pump speed | 3.09 |
| Time pump speed was initialized | 9:11 |
| Pump speed at flow into cylinder | 3.11 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 9:34 | 9:54 | | | | | | |
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks: PID Malfunction

1440 - 2000/9:54

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-14

DATE: 10/13/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 85°F Light wind partly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

INITIAL WATER LEVEL (BTOC): 5.06 FT. | TIME: 10/14 15:49 | BTOC WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): ~~49.57~~ S/ET. | MEASURED TOTAL WELL DEPTH (BTOC 49.57 FT. | HEIGHT OF STICK-UP: 0 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:04 | 0 | 29.10 | 6.75 | -8 | 0.768 | 0.0 | 3.12 | 6.24 | |
| 16:09 | 220 | 28.61 | 7.33 | -39 | 0.449 | 0.0 | 1.45 | 6.32 | |
| 16:14 | 480 | 28.20 | 7.40 | -41 | 0.456 | 0.0 | 1.21 | 6.40 | |
| 16:19 | 760 | 27.85 | 7.43 | -40 | 0.457 | 0.0 | 1.05 | 6.44 | |
| 16:24 | 1000 | 26.82 | 7.44 | -54 | 0.498 | 0.0 | 1.00 | 6.47 | |
| 16:29 | 1240 | 26.53 | 7.44 | -59 | 0.503 | 0.0 | 0.93 | 6.49 | |
| 16:35 | 1500 | 26.35 | 7.40 | -61 | 0.505 | 1.9 | 0.88 | 6.50 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 16:37

PREPARED BY: SHenry

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 47 |
| Initial tubing depth (ft.) BTOC | 45 |
| Final tubing depth (ft.) BTOC | 45 |
| Initial pump speed | 2.00 |
| Time pump speed was initialized | 16:50 |
| Pump speed at flow into cylinder | 2.00 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: _____

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-16

DATE: 10/15/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 82°F light wind partly cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 12.31 FT. | TIME: 17:00 | BTOC WELL SCREEN INTERVAL: 8.13 FT. to 18.13 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 13.98 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.02 FT. | HEIGHT OF STICK-UP: 3.18 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:26 | 0 | 27.77 | 5.98 | -31 | 0.473 | 39 | 1.15 | 13.07 | Clear |
| 17:31 | 240 | 27.52 | 5.99 | -36 | 0.472 | 38.4 | 1.04 | 13.06 | ~~air in tubing~~ air in system |
| 17:36 | 440 | 27.02 | 5.98 | -39 | 0.475 | 39.3 | 2.52 | 13.30 | |
| 17:41 | 700 | 26.67 | 5.97 | -38 | 0.473 | 67.4 | 2.47 | NM | |
| 17:46 | 900 | 26.58 | 5.94 | -38 | 0.473 | 61.5 | 2.41 | NM | |
| 17:51 | 1120 | 26.56 | 5.94 | -40 | 0.474 | 56.7 | 2.34 | NM | |
| 17:56 | 1400 | 26.46 | 5.93 | -36 | 0.479 | 54.0 | 2.25 | ~~NM~~ 13.70 SM | |
| | | | | | | | | | |
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COMMENTS:

SAMPLE COLLECTION TIME: 19:04

PREPARED BY: SM

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 13 |
| Final tubing depth (ft.) BTOC | ~~17.5~~ 13.80 |
| Initial pump speed | 2.10 |
| Time pump speed was initialized | 12.11 |
| Pump speed at flow into cylinder | 1.97 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Pressure Water Cond.

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-17 R

DATE: 10/10/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 73° F Medium wind Mostly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.60 FT. to 20.60 FT.

INITIAL WATER LEVEL (BTOC): 11.31 FT. | TIME: 16.43 | BTOC WELL SCREEN INTERVAL: 9.12 FT. to 24.12 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.99 FT. | MEASURED TOTAL WELL DEPTH (BTOC 23.96 FT. | HEIGHT OF STICK-UP: 3.52 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 37.4

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:07 | 0 | 25.27 | 6.12 | -30 | 0.363 | 0.0 | 1.53 | N/A | Clear |
| 17:12 | 200 | 25.20 | 6.07 | -33 | 0.363 | 0.0 | 1.39 | N/A | |
| 17:17 | 420 | 26.02 | 6.05 | -35 | 0.363 | 0.0 | 1.19 | N/A | |
| 17:22 | 620 | 24.95 | 6.05 | -38 | 0.364 | 0.3 | 1.15 | N/A | |
| 17:27 | 840 | 24.71 | 6.05 | -39 | 0.365 | 0.8 | 1.04 | N/A | |
| 17:32 | 1060 | 24.63 | 6.03 | -38 | 0.366 | 1.0 | 0.99 | N/A | |
| 17:34 | | | | | | | | 15.71 | |

COMMENTS:

SAMPLE COLLECTION TIME: 17:35

PREPARED BY: S Hendy

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 25 |
| Initial tubing depth (ft.) BTOC | 17 |
| Final tubing depth (ft.) BTOC | 17 |
| Initial pump speed | 2.01 |
| Time pump speed was initialized | 16:53 |
| Pump speed at flow into cylinder | 2.06 |
| Started new roll of tubing at | |
| Three well volume (mL) | ~ |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-18R

DATE: 10/14/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Cloudy ~75°F ~4 mph NE wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.54 FT. | TIME: 12:12 | BTOC WELL SCREEN INTERVAL: 6.66 FT. to 16.66 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.61 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.55 FT. | HEIGHT OF STICK-UP: 3.66 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 12:22 | 0 | 27.85 | 4.22 | 253 | 0.320 | 5.1 | 3.41 | N/A | first pull is clear |
| 12:27 | 840 | 27.45 | 4.18 | 300 | 0.314 | 15.5 | 1.21 | N/A | |
| 12:32 | 1320 | 27.43 | 4.20 | 313 | 0.310 | 56.2 | 0.84 | N/A | |
| 12:37 | 2180 | 27.44 | 4.26 | 318 | 0.301 | 83.4 | 0.71 | N/A | |
| 12:42 | 2860 | 27.50 | 4.29 | 317 | 0.299 | 79.5 | 0.66 | N/A | |
| 12:47 | 3600 | 27.62 | 4.28 | 319 | 0.297 | 52.6 | 0.55 | N/A | |
| 12:52 | 4200 | 27.80 | 4.30 | 320 | 0.297 | 41.6 | 0.54 | N/A | |
| 12:57 | 4920 | 27.69 | 4.36 | 320 | 0.296 | 29.3 | 0.45 | N/A | |
| 13:02 | 5610 | 27.60 | 4.32 | 327 | 0.295 | 19.6 | 0.42 | N/A | |
| 13:07 | 6500 | 27.53 | 4.42 | 323 | 0.294 | 9.9 | 0.40 | 6.62 | pH = 4.42 WDG |
| | | | | | | | | 6.62 | |

COMMENTS:

SAMPLE COLLECTION TIME: 13:09

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11.5 |
| Final tubing depth (ft.) BTOC | 11.5 |
| Initial pump speed | 3.96 |
| Time pump speed was initialized | 12:17 |
| Pump speed at flow into cylinder | |
| Started new roll of tubing at | — |
| Three well volume (mL) | |

Collected MS/MSD Sample

2,000 mL volume poured into bucket:

| Time | 12:35 | 12:50 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-19

DATE: 10/13/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 95°F Mostly Sunny Partly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.38 FT. to 13.38 FT.

INITIAL WATER LEVEL (BTOC): 6.96 FT. | TIME: 13:36 | BTOC WELL SCREEN INTERVAL: 7.58 FT. to 17.58 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 17.97 FT. | MEASURED TOTAL WELL DEPTH (BTOC 17.96 FT. | HEIGHT OF STICK-UP: 4.2 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM BENEATH OUTER CAP: NM BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:45 | 0 | 30.84 | 6.52 | -8 | 1.02 | 0.0 | 1.55 | N/A | Clear, No odor |
| 13:50 | 750 | 28.77 | 6.50 | -23 | 0.858 | 0.0 | 1.01 | N/A | Turbidity adjusted |
| 13:55 | 1500 | 28.34 | 6.40 | -4 | 0.810 | 0.0 | 0.87 | N/A | |
| 14:00 | 2340 | 27.97 | 6.37 | 2 | 0.800 | 0.0 | 0.77 | N/A | |
| 14:05 | 3000 | 28.07 | 6.36 | 5 | 0.787 | 0.0 | 0.99 | N/A | |
| 14:10 | 3760 | 28.14 | 6.32 | 10 | 0.766 | 0.0 | 0.96 | N/A | |
| 14:12 | | | | | | | | 7.23 | |

COMMENTS: | SAMPLE COLLECTION TIME: 14:15 | PREPARED BY: [illegible]

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 13 |
| Final tubing depth (ft.) BTOC | 13 |
| Initial pump speed | 4.09 |
| Time pump speed was initialized | 13:42 |
| Pump speed at flow into cylinder | 4.04 |
| Started new roll of tubing at | |
| Three well volume (mL) | ~ |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 13:58 | 14:11 | | | | | | |
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks: _____

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-23

DATE: 5/13/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 82°F light wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.15 FT. to 11.15 FT.

INITIAL WATER LEVEL (BTOC): 4.76 FT. | TIME: 11:33 | BTOC WELL SCREEN INTERVAL: 5.90 FT. to 10.90 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 11.72 FT. | MEASURED TOTAL WELL DEPTH (BTOC 11.68 FT. | HEIGHT OF STICK-UP: 0.25 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM | BENEATH OUTER CAP: NM | BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 11:39 | 0 | 30.47 | 6.49 | 79 | 0.962 | 14.9 | 1.92 | N/A | Clear |
| 11:44 | 550 | 28.02 | 6.43 | 82 | 1.01 | 48.6 | 1.04 | N/A | Slightly Cloudy |
| 11:49 | 1080 | 27.95 | 6.44 | 84 | 1.01 | 50.9 | 0.78 | N/A | |
| 11:54 | 1620 | 27.71 | 6.45 | 82 | 1.02 | 55.4 | 0.67 | N/A | |
| 11:59 | 2180 | 27.86 | 6.47 | 81 | 1.02 | 37.6 | 0.61 | N/A | |
| 12:04 | 2720 | 27.51 | 6.47 | 78 | 1.02 | 45.2 | 0.54 | N/A | |
| 12:05 | | | | | | | | 4.95 | |
| | | | | | | | | | |
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COMMENTS:

SAMPLE COLLECTION TIME: 12:06

PREPARED BY: S Helsley

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 8.4 |
| Final tubing depth (ft.) BTOC | 8.4 |
| Initial pump speed | 3.01 |
| Time pump speed was initialized | 11:34 |
| Pump speed at flow into cylinder | 3.05 |
| Started new roll of tubing at | |
| Three well volume (mL) | – |

2,000 mL volume poured into bucket:

| Time | 11:57 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-24 R

DATE: 10/14/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Cloudy ~ 3 mph NE wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 5.65 FT. | TIME: 10:18 | BTOC WELL SCREEN INTERVAL: 8.68 FT. to 18.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 18.15 FT. | MEASURED TOTAL WELL DEPTH (BTOC 18.4 FT. | HEIGHT OF STICK-UP: 3.73 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0 LEL=17

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:34 | 0 | 24.24 | 4.57 | 98 | 0.574 | 0.0 | 3.57 | ~~N/A~~ | |
| 10:39 | 420 | 24.40 | 4.58 | 89 | 0.573 | 0.0 | 2.59 | ~~N/A~~ | |
| 10:44 | 840 | 24.34 | 4.61 | 88 | 0.545 | 0.0 | 1.41 | ~~N/A~~ | |
| 10:49 | 1340 | 24.30 | 4.62 | 88 | 0.533 | 0.0 | 0.96 | ~~N/A~~ | |
| 10:54 | 1780 | 24.34 | 4.66 | 85 | 0.511 | 0.3 | 0.84 | ~~N/A~~ | |
| 11:00 | 2320 | 24.37 | 4.56 | 86 | 0.494 | 5.5 | 0.74 | ~~N/A~~ | |
| 11:05 | 2780 | 24.28 | 4.70 | 76 | 0.484 | 0.0 | 0.57 | ~~N/A~~ | |
| 11:11 | 3380 | 24.84 | 4.78 | 70 | 0.467 | 0.0 | 0.51 | ~~N/A~~ | |
| 11:16 | 3860 | 24.20 | 4.75 | 60 | 0.456 | 0.6 | 0.49 | ~~N/A~~ | |
| 11:21 | 4340 | 24.24 | 4.79 | 48 | 0.452 | 0.0 | 0.45 | ~~N/A~~ | |
| 11:22 | — | — | — | — | — | — | — | 8.26 | |
| | | | | | | | | | |
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COMMENTS:

SAMPLE COLLECTION TIME: 11:23

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 13.5 wDG |
| Final tubing depth (ft.) BTOC | ~~13.75~~ 14.5 |
| Initial pump speed | 2.50 |
| Time pump speed was initialized | 10:31 |
| Pump speed at flow into cylinder | 2.50 |
| Started new roll of tubing at | |
| Three well volume (mL) | — |

collected MNA sample

2,000 mL volume poured into bucket:

| Time | 10:56 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-25

DATE: 10/13/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 95°F Light wind partly cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.40 FT. to 16.40 FT.

INITIAL WATER LEVEL (BTOC): 6.80 FT. | TIME: 14:38 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 17.93 FT. | MEASURED TOTAL WELL DEPTH (BTOC 17.91 FT. | HEIGHT OF STICK-UP: 3.27 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM | BENEATH OUTER CAP: NM | BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 14:50 | 0 | 30.65 | 6.02 | -13 | 0.731 | 17.1 | 1.86 | N/A | Small amount of particulates |
| 14:55 | 680 | 29.92 | 6.05 | -58 | 0.889 | 0.0 | 2.73 | N/A | light tan color in cylinder |
| 15:00 | 1440 | 28.61 | 6.09 | -69 | 0.922 | 0.0 | 2.41 | N/A | No odor, turbidity decreasing |
| 15:05 | 2180 | 27.87 | 6.10 | -77 | 0.923 | 0.0 | 0.57 | N/A | |
| 15:10 | 2940 | 27.76 | 6.12 | -80 | 0.927 | 0.0 | 0.50 | N/A | |
| 15:15 | 3680 | 27.72 | 6.05 | -90 | 0.923 | 0.0 | 0.54 | N/A | |
| 15:16 | | | | | | | | 7.35 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 15:17

PREPARED BY: S Helms

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 14 |
| Final tubing depth (ft.) BTOC | 14 |
| Initial pump speed | 4.04 |
| Time pump speed was initialized | 14:46 |
| Pump speed at flow into cylinder | 4.05 |
| Started new roll of tubing at | |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 15:03 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Black particles on probe

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-26R

DATE: 10/15/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 79°F Rain Wind Partly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.10 FT. to 15.10 FT.

INITIAL WATER LEVEL (BTOC): 2.92 FT. | TIME: 15:50 | BTOC WELL SCREEN INTERVAL: 4.80 FT. to 14.80 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.51 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.51 14.52 FT. | HEIGHT OF STICK-UP: 0.3 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.6 | BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:07 | 0 | 26.23 | 5.81 | -15 | 0.419 | 39.3 | 1.73 | N/A | Clear. |
| 16:12 | 550 | 27.52 | 5.66 | -22 | 0.345 | 48.7 | 1.14 | N/A | |
| 16:17 | 1200 | 28.37 | 5.72 | -33 | 0.320 | 28.0 | 0.82 | N/A | |
| 16:22 | 1840 | 29.28 | 5.71 | -36 | 0.322 | 14.6 | 0.70 | N/A. | |
| 16:28 | 2360 | 27.19 | 5.79 | -45 | 0.325 | 9.4 | 0.58 | N/A | |
| 16:29 | | | | | | | | 3.04 | |

COMMENTS:

SAMPLE COLLECTION TIME: 16:30

PREPARED BY: SHenry

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 9.6 |
| Final tubing depth (ft.) BTOC | 9.5 |
| Initial pump speed | 3.47 |
| Time pump speed was initialized | 16:02 |
| Pump speed at flow into cylinder | 3.51 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 16:25 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-27

DATE: 10/13/14 | PROJECT NAME: VOPAK Savannah STI | PROJECT NO: 390020

WEATHER CONDITIONS: 78°F light wind ~~one~~ partly cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 7.79 FT. to 17.79 FT.

INITIAL WATER LEVEL (BTOC): 7.93 FT. | TIME: 9:41 | BTOC WELL SCREEN INTERVAL: 7.52 FT. to 17.52 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 13.85 FT. | MEASURED TOTAL WELL DEPTH (BTOC 13.84 FT. | HEIGHT OF STICK-UP: -0.27 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM | BENEATH OUTER CAP: NM | BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:58 | 0 | 24.00 | 6.66 | 131 | 0.825 | 21.6 | 2.34 | N/A | First flow from pump |
| 10:03 | 300 | 25.32 | 6.48 | 98 | 0.819 | 17.7 | 1.74 | N/A | DF Diamy Doctors |
| 10:08 | 600 | 25.66 | 6.41 | 91 | 0.822 | 12.7 | 1.35 | N/A | |
| 10:13 | 900 | 25.96 | 6.37 | 88 | 0.825 | 9.9 | 1.31 | N/A | |
| 10:18 | ~~1180~~ 1200 | 26.05 | 6.41 | 84 | 0.825 | 9.2 | 1.12 | N/A | |
| 10:23 | 1480 | 26.36 | 6.31 | 69 | 0.827 | 5.0 | 1.06 | N/A | |
| 10:24 | | | | | | | | 6.43 | |
| | | | | | | | | | |
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COMMENTS:

SAMPLE COLLECTION TIME: 10:26

PREPARED BY: STelma

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10.5 |
| Final tubing depth (ft.) BTOC | 10.5 |
| Initial pump speed | 2.0 |
| Time pump speed was initialized | 9:41 |
| Pump speed at flow into cylinder | 2.0 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: _____

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-28

DATE: 10/17/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny ~65°F ~6 mph NW wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: unk FT. to unk FT.

10/16/14 @ 13:47

INITIAL WATER LEVEL (BTOC): ~~3.46~~ 3.9 FT. TIME: ~~14~~ @ 14:13 | BTOC WELL SCREEN INTERVAL: unk FT. to unk FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.05 FT. | HEIGHT OF STICK-UP: FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 14:03 | 0 | 25.34 | 6.24 | 49 | 0.329 | 50.6 | 3.12 | N/A | |
| 14:08 | 200 | 25.10 | 6.38 | 36 | 0.334 | 50.2 | 2.63 | N/A | |
| 14:13 | 500 | 24.77 | 6.39 | 43 | 0.345 | 54.6 | 2.20 | N/A | |
| 14:18 | 730 | 24.57 | 6.40 | 49 | 0.350 | 53.7 | 2.01 | N/A | |
| 14:23 | 1000 | 24.42 | 6.40 | 56 | 0.352 | 52.2 | 2.11 | N/A | |
| 14:30 | 1360 | 24.35 | 6.39 | 63 | 0.352 | 49.7 | 1.85 | N/A | |
| 14:31 | — | — | — | — | — | — | — | 5.70 | |

COMMENTS:

SAMPLE COLLECTION TIME: 14:32

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 9 |
| Final tubing depth (ft.) BTOC | 9 |
| Initial pump speed | 2.04 |
| Time pump speed was initialized | 13:53 |
| Pump speed at flow into cylinder | 2.04 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: gauged DTB, has little soft bottom.

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-29

DATE: 10/15/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 75°F Partly Cloudy light wind.

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [ ] 2 [ ] 4 [ ] 6 [X] OTHER (3/4") | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 5.82 FT. | TIME: 17:06 | BTOC WELL SCREEN INTERVAL: 13.55 FT. to 23.55 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.26 FT. | MEASURED TOTAL WELL DEPTH (BTOC 23.15 FT. | HEIGHT OF STICK-UP: 3.55 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 2.0 BENEATH INNER CAP: 3.8

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:23 | ~~250~~ 340 | 20.04 | 4.74 | -15 | 1.26 | 38.5 | 4.89 | N/A | Clear |
| 17:28 | 320 | 24.37 | 4.85 | -30 | 1.30 | 52.0 | 2.08 | N/A | |
| 17:33 | 690 | 23.20 | 4.86 | -35 | 1.39 | 42.5 | 1.83 | N/A | |
| 17:38 | 1020 | 22.88 | 4.91 | -39 | 1.45 | 32.0 | 1.56 | N/A | |
| 17:43 | 1360 | 22.64 | 4.92 | -37 | 1.49 | 26.0 | 1.54 | N/A | |
| 17:49 | 1680 | 22.46 | 4.92 | -39 | 1.49 | 25.6 | 1.41 | N/A | |
| 17:50 | | | | | | | | 9.23 | |

COMMENTS:

SAMPLE COLLECTION TIME: 17:51

PREPARED BY: S Helmly

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 24 |
| Initial tubing depth (ft.) BTOC | 18 |
| Final tubing depth (ft.) BTOC | 18 |
| Initial pump speed | 2.05 |
| Time pump speed was initialized | 17:14 |
| Pump speed at flow into cylinder | 2.05 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-30

DATE: 10/15/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 80°F Clear No wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.25 FT. to 15.25 FT.

INITIAL WATER LEVEL (BTOC): ~~5.75~~ 4.95 FT. | TIME: 10:26 | BTOC WELL SCREEN INTERVAL: 4.97 FT. to 14.97 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.07 FT. | MEASURED TOTAL WELL DEPTH (BTOC 15.05 FT. | HEIGHT OF STICK-UP: 0.28 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 15

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:14 | 320 | 24.38 | 4.38 | 45 | 0.358 | 3.3 | 5.15 | 5.07 | Clear |
| 10:29 | 1320 | 24.84 | 4.31 | 34 | 0.355 | 4.3 | 1.17 | 5.07 | |
| 10:44 | 2000 | 25.40 | 4.39 | 24 | 0.351 | 6.8 | 0.86 | 5.06 | |
| 10:49 | 2980 | 25.58 | 4.37 | 21 | 0.344 | 7.1 | 0.70 | 5.07 | |
| 10:52 10:~~56~~ SH | 4180 | 26.05 | 4.47 | 10 | 0.320 | 5.3 | 0.59 | 5.07 | |
| 11:02 | 5140 | 26.21 | 4.45 | 9 | 0.309 | 6.8 | 0.53 | 5.07 | |
| 11:07 | 5880 | 26.32 | 4.42 | 10 | 0.301 | 4.9 | 0.50 | 5.07 | |
| 11:12 | 7120 | 26.40 | ~~4.45~~ 4.41 SH | 1 | 0.298 | 2.6 | 0.47 | 5.07 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 11:16

PREPARED BY: SHelms

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10.5 |
| Final tubing depth (ft.) BTOC | 10.5 |
| Initial pump speed | 4.52 |
| Time pump speed was initialized | 10:29 |
| Pump speed at flow into cylinder | 4.51 |
| Started new roll of tubing at | |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 10:44 | 10:56 | 11:09 | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | 6500 | | | | | |

Additional remarks: Stepped away from well due to high VOC reading on PID
Returned at PID VOC reading of 0.0 ppm

## ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-31

DATE: 08/13/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 80°F Raining Partly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 10.50 FT. to 20.50 FT.

INITIAL WATER LEVEL (BTOC): 4.56 FT. TIME: 10:40 | BTOC WELL SCREEN INTERVAL: 10.08 FT. to 20.08 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 20.48 FT. | MEASURED TOTAL WELL DEPTH (BTOC) FT. | HEIGHT OF STICK-UP: 0.42 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM BENEATH OUTER CAP: NM BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:47 | 0 | 26.86 | 6.69 | 45 | ~~0.830~~ 0.870 | 1.40 | 2.68 | ~~NA~~ | Clear DTW=4.97 |
| 10:52 | 700 | 25.15 | 6.52 | 1 | 0.870 | 0.0 | 1.24 | 4.99 | |
| 10:57 | 1440 | 25.00 | 6.61 | -7 | 0.877 | 0.0 | 0.97 | 5.00 | |
| 11:02 | 2380 | 24.42 | 6.63 | -11 | 0.884 | 0.0 | 0.72 | 5.02 | |
| 11:07 | 3100 | 24.69 | 6.60 | -13 | 0.885 | 0.0 | 0.63 | 5.02 | |
| 11:12 | 3880 | 24.97 | 5.58 | -15 | 0.877 | 0.0 | 0.61 | 5.02 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 11:14

PREPARED BY: S Hemm

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 15 |
| Final tubing depth (ft.) BTOC | 15 |
| Initial pump speed | 4.07 |
| Time pump speed was initialized | 10:44 |
| Pump speed at flow into cylinder | 4.10 |
| Started new roll of tubing at | |
| Three well volume (mL) | ← |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 11:00 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-32

DATE: 10/17/19 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny ~72°F no wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT.

INITIAL WATER LEVEL (BTOC): 6.10 FT. | TIME: 16:25 | BTOC WELL SCREEN INTERVAL: 6.08 FT. to 16.08 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.43 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.41 FT. | HEIGHT OF STICK-UP: 0.42 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 12.4

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:35 | 0 | 29.64 | 5.88 | 99 | 1.13 | 0.0 | 2.18 | 6.30 | |
| 16:40 | 600 | 30.10 | 5.60 | 79 | 1.24 | 0.0 | 0.74 | 6.37 | |
| 16:46 | 1180 | 30.47 | 5.53 | 59 | 1.22 | 0.0 | 0.53 | 6.38 | |
| 16:51 | 1680 | 30.70 | 5.47 | 42 | 1.20 | 0.0 | 0.50 | 6.37 | |
| 16:56 | 2100 | 31.06 | 5.47 | 32 | 1.17 | 0.0 | 0.46 | 6.39 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 16:58

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 3.02 |
| Time pump speed was initialized | 16:29 |
| Pump speed at flow into cylinder | 3.02 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 16:56 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2100 | | | | | | | |

Additional remarks: first pull has some orange bacteria

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-33

DATE: 10/14/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Overcast, windy, 79° F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

INITIAL WATER LEVEL (BTOC): 2.48 FT. | TIME: 15:25 | BTOC WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.42 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.35 FT. | HEIGHT OF STICK-UP: 0 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 12.6

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:34 | 0 | 26.72 | 5.45 | -20 | 0.390 | 0.0 | 2.35 | 2.31 | Clear |
| 15:39 | 820 | 25.78 | 5.35 | -25 | 0.406 | 0.0 | 0.92 | 2.35 | Tan yellow Cover in Column |
| 15:44 | 1620 | 25.89 | 5.22 | -24 | 0.409 | 1.1 | 0.65 | 2.79 | |
| 15:49 | 2400 | 25.87 | 5.35 | -36 | 0.409 | 1.3 | 0.69 | 2.79 | |
| 15:54 | 3220 | 25.85 | 5.31 | -35 | 0.412 | 2.0 | 0.50 | 2.31 | |
| 15:59 | 4050 | 25.83 | 5.42 | -45 | 0.415 | 2.1 | 0.48 | 2.39 | |
| 16:04 | 5000 | 25.71 | 5.40 | -45 | 0.417 | 0.5 | 0.43 | 2.29 | |
| 16:09 | 5800 | 25.79 | 5.29 | -43 | 0.418 | 1.0 | 0.39 | 2.30 | |
| 16:14 | 6900 | 25.75 | 5.38 | -52 | 0.429 | 2.05 | 0.39 | 2.29 | |
| 16:19 | 7500 | 25.83 | 5.27 | -48 | 0.434 | 1.2 | 0.37 | 2.79 | |
| 16:24 | 8300 | 25.73 | 5.40 | -55 | 0.431 | 2.3 | 0.37 | 2.79 | |
| 16:29 | 9120 | 25.73 | 5.36 | -50 | 0.431 | 0.0 | 0.38 | 2.79 | |
| 16:34 | 10000 | 25.72 | 5.29 | -54 | 0.430 | 1.6 | 0.31 | 2.80 | |
| 16:39 | 11,000 | 25.67 | 5.34 | -61 | 0.430 | 0.7 | 0.31 | 2.80 | |
| | | | | | | | | | |
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COMMENTS:

SAMPLE COLLECTION TIME: 17:02

PREPARED BY: S Helms

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 4.74 |
| Time pump speed was initialized | 15:32 |
| Pump speed at flow into cylinder | 4.74 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 15:46 | 15:58 | 16:10 | 16:22 | 16:34 | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | 6000 | 8000 | 10000 | | | |

Additional remarks: Allowed well to vent 4 days operating before proceeding with sampling. PID reading went to 0.0 ppm

## ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-34

| | | |
|---|---|---|
| DATE: 10/16/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020 |
| WEATHER CONDITIONS: 75° Mostly Cloudy, Light wind SW | | |
| SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER | | |
| WELL DIAMETER (IN.) [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT. | |
| INITIAL WATER LEVEL (BTOC): 7.12 FT. TIME: 11:52 | BTOC WELL SCREEN INTERVAL: 6.02 FT. to 16.02 FT. | |
| HISTORICAL TOTAL WELL DEPTH (BTOC): 16.34 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.34 FT. | HEIGHT OF STICK-UP: 0.48 FT. BGS |
| PURGING DEVICE: Pegasus Alexis Peristaltic Pump | [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED | |
| SAMPLING DEVICE: 1/4" Teflon lined tubing | [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED | |
| EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY | | |
| [ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE | | |
| PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 0.0 |
| CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED | | |
| ANALYTICAL PARAMETERS: 8260 B | | |
| LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9 |

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 12:01 | 0 | 24.38 | 4.53 | 111 | 0.194 | 30.9 | 3.03 | 3.15 | Clear |
| 12:06 | 800 | 24.32 | 4.47 | 194 | 0.182 | 28.6 | 1.59 | 3.17 | |
| 12:11 | 1480 | 24.94 | 4.38 | 209 | 0.181 | 33.6 | 1.22 | 3.17 | |
| 12:16 | 2200 | 25.31 | 4.44 | 219 | 0.196 | 22.8 | 0.99 | 3.17 | |
| 12:22 | 2800 | 25.34 | 4.25 | 227 | 0.189 | 15.7 | 0.86 | 3.17 | |
| 12:27 | 3480 | 25.43 | 4.44 | 228 | 0.181 | 5.1 | 0.79 | 3.17 | |
| 12:32 | 4380 | 25.45 | 4.39 | 231 | 0.184 | 2.1 | 0.74 | 3.17 | |
| 12:37 | 5040 | 25.74 | 4.38 | 233 | 0.183 | 0.0 | 0.68 | 3.17 | pH = 4.43 |
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COMMENTS:

SAMPLE COLLECTION TIME: 12:39

PREPARED BY: Will Grant & Stephen Helmly

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 4.05 |
| Time pump speed was initialized | 11:57 |
| Pump speed at flow into cylinder | 4.05 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 12:16 | 12:30 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2200 | 2000 | | | | | | |

Additional remarks: well cap needs two bolts, ~~[illegible]~~ a

## ENVIRONMENTAL INTERNATIONAL CORPORATION

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## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-35

DATE: 10/16/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 72° F Mostly Cloudy, Light Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.63 FT. to 15.63 FT.

INITIAL WATER LEVEL (BTOC): 5.49 FT. | TIME: 15430 | BTOC WELL SCREEN INTERVAL: 5.32 FT. to 15.32 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.32 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -0.31 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:52 | 0 | 25.92 | 6.51 | -65 | 0.634 | 7.6 | 1.49 | 5.56 | |
| 15:57 | 350 | 25.92 | 6.68 | -108 | 0.634 | 5.7 | 1.18 | 5.57 | |
| 16:02 | 730 | 25.81 | 6.75 | -115 | 0.630 | 0.0 | 1.02 | 5.57 | |
| 16:07 | 1030 | 25.78 | 6.77 | -119 | 0.630 | 0.0 | 0.95 | 5.58 | |
| 16:12 | 1390 | 25.90 | 6.74 | -121 | 0.631 | 0.0 | 0.89 | 5.58 | |
| 16:17 | 1640 | 25.92 | 6.80 | -121 | 0.620 | 0.0 | 0.83 | 5.58 | |
| 16:22 | 2000 | 26.01 | 6.78 | -122 | 0.622 | 0.0 | 0.78 | 5.59 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 1624

PREPARED BY: SHelmly

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 2.45 |
| Time pump speed was initialized | 15:40 |
| Pump speed at flow into cylinder | 2.46 |
| Started new roll of tubing at | |
| Three well volume (mL) | — |

15:42 dedicated first pull containing bacterium part number plug

15:45 reconnected

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Dropped Bolt down well upon opening of cap.

## ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-36

DTW 6.71 ft

DATE: 10/7/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny – 72°F ~2 mph NE wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.55 FT. to 15.55 FT.

INITIAL WATER LEVEL (BTOC): 7.71 WG FT. | TIME: 15:46 | BTOC WELL SCREEN INTERVAL: 5.43 FT. to 15.43 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.425 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -0.125 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) WG | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:56 | 0 | 27.77 | 6.36 | ~~X~~ -52 | 1.28 | 0.0 | 1.94 | 6.93 | |
| 16:01 | 640 | 28.64 | 6.40 | -104 | 1.33 | 0.0 | WG ~~X~~ 0.87 | 7.00 | |
| 16:06 | 1080 | 28.86 | 6.40 | -108 | 1.34 | 0.0 | 0.63 | 7.04 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 16:08

PREPARED BY: Will Gray

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12 |
| Final tubing depth (ft.) BTOC | 12 |
| Initial pump speed | 3.07 |
| Time pump speed was initialized | 15:49 |
| Pump speed at flow into cylinder | 3.07 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: first pull is clear in tubing

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-37

DATE: 10/16/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 75°F, Mostly Cloudy, Low wind SW

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.15 FT. to 15.15 FT.

INITIAL WATER LEVEL (BTOC): 3.80 FT. | TIME: 12:58 | BTOC WELL SCREEN INTERVAL: 5.15 FT. to 15.15 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.15 FT. | MEASURED TOTAL WELL DEPTH (BTOC) [illegible] FT. | HEIGHT OF STICK-UP: 0 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM | BENEATH OUTER CAP: NM | BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:08 | 0 | 24.71 | 5.69 | 32 | 0.340 | 46.6 | 5.02 | 3.84 | |
| 13:13 | 700 | 23.50 | 5.72 | 8 | 0.363 | 38.2 | 3.53 | 3.84 | |
| 13:18 | 1360 | 23.21 | 5.73 | 4 | 0.369 | 35.7 | 3.00 | 3.84 | |
| 13:23 | 2000 | 23.18 | 5.69 | 5 | 0.370 | 28.2 | 2.81 | 3.84 | |
| 13:28 | 2560 | 23.15 | 5.69 | 3 | 0.370 | 26.8 | 2.70 | 3.84 | |
| 13:33 | 3200 | 23.29 | 5.57 | w96 | 0.368 | 23.7 | 2.66 | 3.84 | |
| 13:39 | 3900 | 23.29 | 5.54 | 12 | 0.365 | 23.5 | 2.21 | 3.84 | |
| 13:44 | 4420 | 23.14 | 5.56 | 15 | 0.362 | 23.0 | 2.03 | 3.84 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 13:46

PREPARED BY: Will Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 4.99 |
| Time pump speed was initialized | 13:04 |
| Pump speed at flow into cylinder | 4.99 w.e. 3.99 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket: w.e.

| Time | 13:44 | 13:41 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4100 | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: PAN-MW-9

DATE: 10/15/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 81°F Clear Low wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.13 FT. | TIME: 13:35 | BTOC WELL SCREEN INTERVAL: 6.25 FT. to 16.25 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.78 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.77 FT. | HEIGHT OF STICK-UP: 3.25 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 2.5 BENEATH INNER CAP: 28.7

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:50 | 0 | 25.41 | 4.99 | -33 | 0.617 | 61.3 | 1.62 | 6.89 | Sunn pump/bladder pump |
| 13:55 | 380 | 25.40 | 5.00 | -59 | 0.620 | 51.0 | 1.11 | 7.14 | Clear. |
| 14:00 | 800 | 25.38 | 5.01 | -68 | 0.617 | 42.7 | 0.86 | 7.33 | |
| 14:05 | 1190 | 25.15 | 5.01 | -73 | 0.613 | 71.7 | 0.70 | 7.45 | |
| 14:10 | 1540 | 25.23 | 5.01 | -77 | 0.613 | 66.5 | 0.61 | 7.55 | |
| 14:15 | 1960 | 26.33 | 5.00 | -80 | 0.606 | 63.5 | 0.55 | 7.32 | |

COMMENTS: | SAMPLE COLLECTION TIME: 14:17 | PREPARED BY: S Hellwig

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10.5 |
| Final tubing depth (ft.) BTOC | 10.5 |
| Initial pump speed | 2.67 |
| Time pump speed was initialized | 13:40 |
| Pump speed at flow into cylinder | 2.67 SH |
| Started new roll of tubing at | |
| Three well volume (mL) | |

Clipped small amount of dense particulate from tubing that had been in pump. Restart pump at 13:44

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Used opening for PID Reading. Water emerged from Outer metal casing. Backed away and ground water spray as well casing. Interior was still in place. Spray resulted in high VOC reading. Washed casing with DI water and allowed to sit. Removed outer cap. ~~Put~~ and measured VOC emissions. Next to High VOC reading. Opened well to sit. Next prior to sampling. Returned to sample. Ensure casing VOC reading 1.7

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: PAN-MW-10

DATE: 10/16/14 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 79°F Clear Low Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 9.44 FT. | TIME: 9:22 | BTOC WELL SCREEN INTERVAL: 6.68 FT. to 16.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.93 FT. | MEASURED TOTAL WELL DEPTH (BTOC 15.9 FT. | HEIGHT OF STICK-UP: 3.68 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:33 | 0 | 21.40 | 6.19 | 114 | 0.533 | 19.2 | 4.54 | 9.55 | Clear |
| 9:38 | 800 | 23.63 | 6.04 | 159 | 0.517 | 25.5 | 3.62 | 9.56 | |
| 9:43 | 1600 | 23.84 | 6.03 | 157 | 0.513 | 26.2 | 3.23 | 9.56 | |
| 9:48 | 2300 | 24.05 | 5.98 | 160 | 0.507 | 17.7 | 2.80 | 9.57 | |
| 9:53 | 3100 | 24.18 | 6.01 | 158 | 0.501 | 8.5 | 2.24 | 9.57 | |
| 9:58 | 3900 | 24.19 | 5.94 | 163 | 0.496 | 6.8 | 1.91 | 9.57 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 10:00

PREPARED BY: S Halsey

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12.5 |
| Final tubing depth (ft.) BTOC | 12.5 |
| Initial pump speed | 4.10 |
| Time pump speed was initialized | 9:29 |
| Pump speed at flow into cylinder | 4.11 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 9:49 | | | | | | | |
| Cummulative Volume (mL) | 2600 | | | | | | | |

Additional remarks:

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# SEVENTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT B

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-106392-1
Client Project/Site: VOPAK, Savannah

For:
Environmental International Corporation
161 Kimball Bridge Road
Suite 100
Alpharetta, Georgia 30009

Attn: Will Grant

*Authorized for release by:*
*10/31/2014 4:42:02 PM*

Sheila Hoffman, Project Manager II
(912)354-7858 e.3004
sheila.hoffman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

# Sample Summary

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 680-106392-1 | IW-1R | Water | 10/17/14 11:27 | 10/18/14 07:50 |
| 680-106392-2 | IW-18 | Water | 10/17/14 08:32 | 10/18/14 07:50 |
| 680-106392-3 | LAW-PZ-8R | Water | 10/17/14 10:03 | 10/18/14 07:50 |
| 680-106392-4 | MW-14 | Water | 10/13/14 16:32 | 10/18/14 07:50 |
| 680-106392-5 | MW-16 | Water | 10/13/14 18:04 | 10/18/14 07:50 |
| 680-106392-6 | MW-17R | Water | 10/16/14 17:35 | 10/18/14 07:50 |
| 680-106392-7 | MW-18R | Water | 10/14/14 13:09 | 10/18/14 07:50 |
| 680-106392-8 | MW-19 | Water | 10/13/14 14:15 | 10/18/14 07:50 |
| 680-106392-9 | MW-24R | Water | 10/14/14 11:23 | 10/18/14 07:50 |
| 680-106392-10 | MW-23 | Water | 10/13/14 12:06 | 10/18/14 07:50 |
| 680-106392-11 | MW-25 | Water | 10/13/14 10:17 | 10/18/14 07:50 |
| 680-106392-12 | MW-26R | Water | 10/15/14 16:30 | 10/18/14 07:50 |
| 680-106392-13 | MW-27 | Water | 10/13/14 10:26 | 10/18/14 07:50 |
| 680-106392-14 | MW-28 | Water | 10/17/14 14:32 | 10/18/14 07:50 |
| 680-106392-15 | MW-29 | Water | 10/15/14 17:51 | 10/18/14 07:50 |
| 680-106392-16 | MW-30 | Water | 10/15/14 11:16 | 10/18/14 07:50 |
| 680-106392-17 | MW-31 | Water | 10/13/14 11:14 | 10/18/14 07:50 |
| 680-106392-18 | MW-32 | Water | 10/17/14 16:58 | 10/18/14 07:50 |
| 680-106392-19 | MW-33 | Water | 10/14/14 17:02 | 10/18/14 07:50 |
| 680-106392-20 | MW-34 | Water | 10/16/14 12:39 | 10/18/14 07:50 |
| 680-106392-21 | MW-35 | Water | 10/16/14 16:24 | 10/18/14 07:50 |
| 680-106392-22 | MW-36 | Water | 10/17/14 16:08 | 10/18/14 07:50 |
| 680-106392-23 | MW-37 | Water | 10/16/14 13:46 | 10/18/14 07:50 |
| 680-106392-24 | PAN-MW-9 | Water | 10/15/14 14:17 | 10/18/14 07:50 |
| 680-106392-25 | PAN-MW-10 | Water | 10/15/14 10:00 | 10/18/14 07:50 |
| 680-106392-26 | Trip Blank | Water | 10/17/14 00:00 | 10/18/14 07:50 |

# Method Summary

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL SAV |
| 9056A | Anions, Ion Chromatography | SW846 | TAL SAV |
| 6010C | Metals (ICP) | SW846 | TAL SAV |
| 310.1 | Alkalinity | MCAWW | TAL SAV |
| 9034 | Sulfide, Acid Soluble and Insoluble (Titrimetric) | SW846 | TAL SAV |
| 9060A | Organic Carbon, Total (TOC) | SW846 | TAL SAV |
| Carbon Dioxide, Nitrogen, & Monoxide | AM20GAX Dissolved Gases | NONE | SC0015 |
| Methane, Ethane, & Ethene (MEE) | AM20GAX Dissolved Gases | NONE | SC0015 |

**Protocol References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

SC0015 = Microseeps, 220 William Pitt Way, Pittsburgh, PA 15238, TEL (412)826-5245

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### HPLC/IC

| Qualifier | Qualifier Description |
|---|---|
| H | Sample was prepped or analyzed beyond the specified holding time |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative error ratio |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

## Job ID: 680-106392-1

**Laboratory: TestAmerica Savannah**

**Narrative**

### CASE NARRATIVE

### Client: Environmental International Corporation

### Project: VOPAK, Savannah

### Report Number: 680-106392-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

**RECEIPT**

The samples were received on 10/18/2014; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.6 C.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples IW-1R (680-106392-1), IW-18 (680-106392-2), LAW-PZ-8R (680-106392-3), MW-14 (680-106392-4), MW-16 (680-106392-5), MW-17R (680-106392-6), MW-18R (680-106392-7), MW-19 (680-106392-8), MW-24R (680-106392-9), MW-23 (680-106392-10), MW-25 (680-106392-11), MW-26R (680-106392-12), MW-27 (680-106392-13), MW-28 (680-106392-14), MW-29 (680-106392-15), MW-30 (680-106392-16), MW-31 (680-106392-17), MW-32 (680-106392-18), MW-33 (680-106392-19), MW-34 (680-106392-20), MW-35 (680-106392-21), MW-36 (680-106392-22), MW-37 (680-106392-23), PAN-MW-9 (680-106392-24), PAN-MW-10 (680-106392-25) and Trip Blank (680-106392-26) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 10/22/2014, 10/23/2014, 10/24/2014 and 10/25/2014.

Samples IW-1R (680-106392-1)[200X], IW-18 (680-106392-2)[50X], LAW-PZ-8R (680-106392-3)[1000X], MW-24R (680-106392-9)[5X], MW-26R (680-106392-12)[5X], MW-29 (680-106392-15)[50X], MW-32 (680-106392-18)[20X], MW-33 (680-106392-19)[5X], MW-37 (680-106392-23)[2X] and PAN-MW-9 (680-106392-24)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**METALS (ICP)**

Samples LAW-PZ-8R (680-106392-3), MW-29 (680-106392-15) and MW-32 (680-106392-18) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 10/20/2014 and analyzed on 10/21/2014.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**ALKALINITY**

Samples LAW-PZ-8R (680-106392-3), MW-29 (680-106392-15) and MW-32 (680-106392-18) were analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 10/22/2014 and 10/23/2014.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**SULFIDE**

Samples LAW-PZ-8R (680-106392-3), MW-29 (680-106392-15) and MW-32 (680-106392-18) were analyzed for sulfide in accordance with EPA SW-846 Method 9034. The samples were prepared and analyzed on 10/22/2014.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Job ID: 680-106392-1 (Continued)

### Laboratory: TestAmerica Savannah (Continued)

**9056 ANIONS**

Samples LAW-PZ-8R (680-106392-3), MW-29 (680-106392-15) and MW-32 (680-106392-18) were analyzed for 9056 Anions in accordance with SW 846 9056. The samples were analyzed on 10/28/2014 and 10/29/2014.

Samples LAW-PZ-8R (680-106392-3)[4X], MW-29 (680-106392-15)[10X], MW-29 (680-106392-15)[2X] and MW-32 (680-106392-18)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**ANIONS BY IC (NITRATE/NITRITE)**

Samples LAW-PZ-8R (680-106392-3), MW-29 (680-106392-15) and MW-32 (680-106392-18) were analyzed for Anions by IC (Nitrate/Nitrite) in accordance with EPA SW-846 Method 9056A. The following sample was received outside of holding time: MW-29 (680-106392-15). The samples were analyzed on 10/18/2014.

Samples LAW-PZ-8R (680-106392-3)[5X], MW-29 (680-106392-15)[2X] and MW-32 (680-106392-18)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**TOTAL ORGANIC CARBON**

Samples LAW-PZ-8R (680-106392-3), MW-29 (680-106392-15) and MW-32 (680-106392-18) were analyzed for total organic carbon in accordance with EPA SW-846 Method 9060A. The samples were analyzed on 10/28/2014.

Samples LAW-PZ-8R (680-106392-3)[4X] and MW-29 (680-106392-15)[4X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

## Client Sample ID: IW-1R — Lab Sample ID: 680-106392-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 450 | | 200 | 36 | ug/L | 200 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 40 | J | 200 | 22 | ug/L | 200 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 54 | J | 200 | 40 | ug/L | 200 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 11000 | | 200 | 30 | ug/L | 200 | | 8260B | Total/NA |
| Chloroform | 61 | J | 200 | 28 | ug/L | 200 | | 8260B | Total/NA |
| Benzene | 130 | J | 200 | 50 | ug/L | 200 | | 8260B | Total/NA |
| Trichloroethene | 190 | J | 200 | 26 | ug/L | 200 | | 8260B | Total/NA |
| Toluene | 320 | | 200 | 66 | ug/L | 200 | | 8260B | Total/NA |
| Tetrachloroethene | 170 | J | 200 | 30 | ug/L | 200 | | 8260B | Total/NA |
| Chlorobenzene | 740 | | 200 | 50 | ug/L | 200 | | 8260B | Total/NA |
| Ethylbenzene | 2200 | | 200 | 22 | ug/L | 200 | | 8260B | Total/NA |
| Xylenes, Total | 19000 | | 400 | 40 | ug/L | 200 | | 8260B | Total/NA |
| Isopropylbenzene | 43 | J | 200 | 20 | ug/L | 200 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 79 | J | 200 | 50 | ug/L | 200 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 530 | | 200 | 56 | ug/L | 200 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 130 | J | 200 | 42 | ug/L | 200 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 830 | J | 1000 | 50 | ug/L | 200 | | 8260B | Total/NA |

## Client Sample ID: IW-18 — Lab Sample ID: 680-106392-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 1500 | | 50 | 9.0 | ug/L | 50 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 7.7 | J | 50 | 5.5 | ug/L | 50 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 14 | J | 50 | 10 | ug/L | 50 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 2900 | | 50 | 7.5 | ug/L | 50 | | 8260B | Total/NA |
| Benzene | 170 | | 50 | 13 | ug/L | 50 | | 8260B | Total/NA |
| Trichloroethene | 12 | J | 50 | 6.5 | ug/L | 50 | | 8260B | Total/NA |
| Toluene | 28 | J | 50 | 17 | ug/L | 50 | | 8260B | Total/NA |
| Tetrachloroethene | 11 | J | 50 | 7.5 | ug/L | 50 | | 8260B | Total/NA |
| Chlorobenzene | 870 | | 50 | 13 | ug/L | 50 | | 8260B | Total/NA |
| Ethylbenzene | 130 | | 50 | 5.5 | ug/L | 50 | | 8260B | Total/NA |
| Xylenes, Total | 1100 | | 100 | 10 | ug/L | 50 | | 8260B | Total/NA |
| Isopropylbenzene | 5.3 | J | 50 | 5.0 | ug/L | 50 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 18 | J | 50 | 13 | ug/L | 50 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 87 | | 50 | 14 | ug/L | 50 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 25 | J | 50 | 11 | ug/L | 50 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 27 | J | 250 | 13 | ug/L | 50 | | 8260B | Total/NA |

## Client Sample ID: LAW-PZ-8R — Lab Sample ID: 680-106392-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 1900 | | 1000 | 180 | ug/L | 1000 | | 8260B | Total/NA |
| Acetone | 8600 | J | 10000 | 5000 | ug/L | 1000 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 15000 | | 1000 | 150 | ug/L | 1000 | | 8260B | Total/NA |
| Benzene | 3400 | | 1000 | 250 | ug/L | 1000 | | 8260B | Total/NA |
| Toluene | 1100 | | 1000 | 330 | ug/L | 1000 | | 8260B | Total/NA |
| Chlorobenzene | 7900 | | 1000 | 250 | ug/L | 1000 | | 8260B | Total/NA |
| Ethylbenzene | 13000 | | 1000 | 110 | ug/L | 1000 | | 8260B | Total/NA |
| Xylenes, Total | 180000 | | 2000 | 200 | ug/L | 1000 | | 8260B | Total/NA |
| Isopropylbenzene | 200 | J | 1000 | 100 | ug/L | 1000 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

## Client Sample ID: LAW-PZ-8R (Continued) — Lab Sample ID: 680-106392-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,3-Dichlorobenzene | 300 | J | 1000 | 250 | ug/L | 1000 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 1900 | | 1000 | 280 | ug/L | 1000 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 600 | J | 1000 | 210 | ug/L | 1000 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 310 | J | 5000 | 250 | ug/L | 1000 | | 8260B | Total/NA |
| Chloride | 59 | | 2.0 | 1.0 | mg/L | 4 | | 9056A | Total/NA |
| Iron | 63000 | | 50 | 24 | ug/L | 1 | | 6010C | Total Recoverable |
| Total Organic Carbon | 140 | | 4.0 | 2.0 | mg/L | 4 | | 9060A | Total/NA |

| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity | 240 | | 5.0 | 5.0 | mg/L | 1 | | 310.1 | Total/NA |

## Client Sample ID: MW-14 — Lab Sample ID: 680-106392-4

No Detections.

## Client Sample ID: MW-16 — Lab Sample ID: 680-106392-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 81 | | 1.0 | 0.18 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 0.36 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| Acetone | 7.3 | J | 10 | 5.0 | ug/L | 1 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 0.51 | J | 1.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 130 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 1.3 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 0.34 | J | 1.0 | 0.13 | ug/L | 1 | | 8260B | Total/NA |
| Methylcyclohexane | 0.17 | J | 1.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 7.6 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 1.6 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 3.1 | | 1.0 | 0.28 | ug/L | 1 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 0.43 | J | 1.0 | 0.21 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 0.87 | J | 5.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-17R — Lab Sample ID: 680-106392-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | 0.66 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 50 | | 1.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-18R — Lab Sample ID: 680-106392-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 2.5 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 0.58 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 0.35 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 0.12 | J | 1.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-19 — Lab Sample ID: 680-106392-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | 0.35 | J | 1.0 | 0.28 | ug/L | 1 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

## Client Sample ID: MW-24R — Lab Sample ID: 680-106392-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 38 | | 5.0 | 0.90 | ug/L | 5 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 1.1 | J | 5.0 | 0.55 | ug/L | 5 | | 8260B | Total/NA |
| Acetone | 55 | | 50 | 25 | ug/L | 5 | | 8260B | Total/NA |
| Methyl tert-butyl ether | 160 | | 50 | 1.0 | ug/L | 5 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 360 | | 5.0 | 0.75 | ug/L | 5 | | 8260B | Total/NA |
| Benzene | 5.6 | | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| Tetrachloroethene | 1.7 | J | 5.0 | 0.75 | ug/L | 5 | | 8260B | Total/NA |
| Ethylbenzene | 1.3 | J | 5.0 | 0.55 | ug/L | 5 | | 8260B | Total/NA |

## Client Sample ID: MW-23 — Lab Sample ID: 680-106392-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 5.5 | J | 10 | 5.0 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-25 — Lab Sample ID: 680-106392-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methylcyclohexane | 0.28 | J | 1.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 0.34 | J | 1.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-26R — Lab Sample ID: 680-106392-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 7.3 | | 5.0 | 0.90 | ug/L | 5 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 1.1 | J | 5.0 | 1.0 | ug/L | 5 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 7.2 | | 5.0 | 0.75 | ug/L | 5 | | 8260B | Total/NA |
| Chloroform | 0.74 | J | 5.0 | 0.70 | ug/L | 5 | | 8260B | Total/NA |
| Benzene | 19 | | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| Trichloroethene | 4.1 | J | 5.0 | 0.65 | ug/L | 5 | | 8260B | Total/NA |
| Chlorobenzene | 88 | | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| Ethylbenzene | 25 | | 5.0 | 0.55 | ug/L | 5 | | 8260B | Total/NA |
| Xylenes, Total | 400 | | 10 | 1.0 | ug/L | 5 | | 8260B | Total/NA |
| Isopropylbenzene | 1.5 | J | 5.0 | 0.50 | ug/L | 5 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 1.6 | J | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |

## Client Sample ID: MW-27 — Lab Sample ID: 680-106392-13

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 12 | | 1.0 | 0.18 | ug/L | 1 | | 8260B | Total/NA |
| Methyl tert-butyl ether | 0.48 | J | 10 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 2.2 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Chloroform | 0.23 | J | 1.0 | 0.14 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 4.4 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 0.40 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-28 — Lab Sample ID: 680-106392-14

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 3.4 | | 1.0 | 0.18 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 14 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

## Client Sample ID: MW-28 (Continued) — Lab Sample ID: 680-106392-14

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.82 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 0.44 | J | 1.0 | 0.13 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 2.3 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 3.6 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 0.27 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 2.2 | | 2.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 1.2 | J | 5.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-29 — Lab Sample ID: 680-106392-15

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 660 | | 50 | 9.0 | ug/L | 50 | | 8260B | Total/NA |
| Acetone | 420 | J | 500 | 250 | ug/L | 50 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 4300 | | 50 | 7.5 | ug/L | 50 | | 8260B | Total/NA |
| Chloroform | 11 | J | 50 | 7.0 | ug/L | 50 | | 8260B | Total/NA |
| Trichloroethene | 55 | | 50 | 6.5 | ug/L | 50 | | 8260B | Total/NA |
| Toluene | 21 | J | 50 | 17 | ug/L | 50 | | 8260B | Total/NA |
| Tetrachloroethene | 74 | | 50 | 7.5 | ug/L | 50 | | 8260B | Total/NA |
| Chlorobenzene | 160 | | 50 | 13 | ug/L | 50 | | 8260B | Total/NA |
| Ethylbenzene | 1800 | | 50 | 5.5 | ug/L | 50 | | 8260B | Total/NA |
| Xylenes, Total | 4300 | | 100 | 10 | ug/L | 50 | | 8260B | Total/NA |
| Isopropylbenzene | 49 | J | 50 | 5.0 | ug/L | 50 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 63 | | 50 | 13 | ug/L | 50 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 190 | | 50 | 14 | ug/L | 50 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 34 | J | 50 | 11 | ug/L | 50 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 110 | J | 250 | 13 | ug/L | 50 | | 8260B | Total/NA |
| Chloride | 360 | | 5.0 | 2.5 | mg/L | 10 | | 9056A | Total/NA |
| Nitrite as N | 0.36 | H | 0.10 | 0.050 | mg/L | 2 | | 9056A | Total/NA |
| Sulfate | 1.8 | | 1.0 | 0.50 | mg/L | 2 | | 9056A | Total/NA |
| Iron | 53000 | | 50 | 24 | ug/L | 1 | | 6010C | Total Recoverable |
| Total Organic Carbon | 280 | | 4.0 | 2.0 | mg/L | 4 | | 9060A | Total/NA |

| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity | 78 | | 5.0 | 5.0 | mg/L | 1 | | 310.1 | Total/NA |

## Client Sample ID: MW-30 — Lab Sample ID: 680-106392-16

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 1.2 | | 1.0 | 0.18 | ug/L | 1 | | 8260B | Total/NA |
| Acetone | 5.0 | J | 10 | 5.0 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 2.3 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 0.35 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 0.39 | J | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 0.98 | J | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 0.39 | J | 1.0 | 0.28 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 0.41 | J | 5.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-31 — Lab Sample ID: 680-106392-17

This Detection Summary does not include radiochemical test results.

## Client Sample ID: MW-31 (Continued)

Lab Sample ID: 680-106392-17

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 0.43 | J | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 0.33 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 0.32 | J | 5.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-32

Lab Sample ID: 680-106392-18

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 100 | | 20 | 3.6 | ug/L | 20 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 8.2 | J | 20 | 2.2 | ug/L | 20 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 9.0 | J | 20 | 4.0 | ug/L | 20 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 6.3 | J | 20 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 1100 | | 20 | 3.0 | ug/L | 20 | | 8260B | Total/NA |
| Chloroform | 6.2 | J | 20 | 2.8 | ug/L | 20 | | 8260B | Total/NA |
| Benzene | 8.3 | J | 20 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| 1,2-Dichloroethane | 5.7 | J | 20 | 2.0 | ug/L | 20 | | 8260B | Total/NA |
| Trichloroethene | 680 | | 20 | 2.6 | ug/L | 20 | | 8260B | Total/NA |
| 1,2-Dichloropropane | 3.8 | J | 20 | 2.6 | ug/L | 20 | | 8260B | Total/NA |
| Tetrachloroethene | 1900 | | 20 | 3.0 | ug/L | 20 | | 8260B | Total/NA |
| Chlorobenzene | 40 | | 20 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| Ethylbenzene | 36 | | 20 | 2.2 | ug/L | 20 | | 8260B | Total/NA |
| Xylenes, Total | 29 | J | 40 | 4.0 | ug/L | 20 | | 8260B | Total/NA |
| Isopropylbenzene | 6.7 | J | 20 | 2.0 | ug/L | 20 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 20 | | 20 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 41 | | 20 | 5.6 | ug/L | 20 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 5.5 | J | 20 | 4.2 | ug/L | 20 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 85 | J | 100 | 5.0 | ug/L | 20 | | 8260B | Total/NA |
| Chloride | 190 | | 2.5 | 1.3 | mg/L | 5 | | 9056A | Total/NA |
| Nitrate as N | 4.1 | | 0.25 | 0.13 | mg/L | 5 | | 9056A | Total/NA |
| Nitrite as N | 0.22 | | 0.050 | 0.025 | mg/L | 1 | | 9056A | Total/NA |
| Sulfate | 120 | | 2.5 | 1.3 | mg/L | 5 | | 9056A | Total/NA |
| Iron | 6500 | | 50 | 24 | ug/L | 1 | | 6010C | Total Recoverable |
| Total Organic Carbon | 10 | | 1.0 | 0.50 | mg/L | 1 | | 9060A | Total/NA |

| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity | 89 | | 5.0 | 5.0 | mg/L | 1 | | 310.1 | Total/NA |

## Client Sample ID: MW-33

Lab Sample ID: 680-106392-19

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 440 | | 5.0 | 0.90 | ug/L | 5 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 3.4 | J | 5.0 | 0.55 | ug/L | 5 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 5.9 | | 5.0 | 1.0 | ug/L | 5 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 1.9 | J | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 390 | | 5.0 | 0.75 | ug/L | 5 | | 8260B | Total/NA |
| Chloroform | 3.1 | J | 5.0 | 0.70 | ug/L | 5 | | 8260B | Total/NA |
| Trichloroethene | 9.7 | | 5.0 | 0.65 | ug/L | 5 | | 8260B | Total/NA |
| 1,2-Dichloropropane | 1.2 | J | 5.0 | 0.65 | ug/L | 5 | | 8260B | Total/NA |
| Toluene | 3.5 | J | 5.0 | 1.7 | ug/L | 5 | | 8260B | Total/NA |
| Tetrachloroethene | 1.2 | J | 5.0 | 0.75 | ug/L | 5 | | 8260B | Total/NA |
| Chlorobenzene | 90 | | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

## Client Sample ID: MW-33 (Continued) — Lab Sample ID: 680-106392-19

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | 9.4 | | 5.0 | 0.55 | ug/L | 5 | | 8260B | Total/NA |
| Xylenes, Total | 37 | | 10 | 1.0 | ug/L | 5 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 32 | | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 160 | | 5.0 | 1.4 | ug/L | 5 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 12 | | 5.0 | 1.1 | ug/L | 5 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 15 | J | 25 | 1.3 | ug/L | 5 | | 8260B | Total/NA |

## Client Sample ID: MW-34 — Lab Sample ID: 680-106392-20

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 1.8 | | 1.0 | 0.18 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 5.1 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 0.23 | J | 1.0 | 0.13 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 1.1 | | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 1.4 | | 1.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 0.17 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 0.78 | J | 5.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-35 — Lab Sample ID: 680-106392-21

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 0.16 | J | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 0.11 | J | 1.0 | 0.11 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-36 — Lab Sample ID: 680-106392-22

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 0.60 | J | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-37 — Lab Sample ID: 680-106392-23

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 93 | | 2.0 | 0.36 | ug/L | 2 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 3.2 | | 2.0 | 0.22 | ug/L | 2 | | 8260B | Total/NA |
| Acetone | 14 | J | 20 | 10 | ug/L | 2 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 1.6 | J | 2.0 | 0.40 | ug/L | 2 | | 8260B | Total/NA |
| Methyl tert-butyl ether | 0.72 | J | 20 | 0.40 | ug/L | 2 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 1.2 | J | 2.0 | 0.50 | ug/L | 2 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 370 | | 2.0 | 0.30 | ug/L | 2 | | 8260B | Total/NA |
| Chloroform | 0.59 | J | 2.0 | 0.28 | ug/L | 2 | | 8260B | Total/NA |
| Benzene | 10 | | 2.0 | 0.50 | ug/L | 2 | | 8260B | Total/NA |
| 1,2-Dichloroethane | 0.68 | J | 2.0 | 0.20 | ug/L | 2 | | 8260B | Total/NA |
| Trichloroethene | 12 | | 2.0 | 0.26 | ug/L | 2 | | 8260B | Total/NA |
| Methylcyclohexane | 0.42 | J | 2.0 | 0.20 | ug/L | 2 | | 8260B | Total/NA |
| 1,2-Dichloropropane | 0.31 | J | 2.0 | 0.26 | ug/L | 2 | | 8260B | Total/NA |
| Toluene | 0.91 | J | 2.0 | 0.66 | ug/L | 2 | | 8260B | Total/NA |
| Tetrachloroethene | 36 | | 2.0 | 0.30 | ug/L | 2 | | 8260B | Total/NA |
| Chlorobenzene | 79 | | 2.0 | 0.50 | ug/L | 2 | | 8260B | Total/NA |
| Ethylbenzene | 0.83 | J | 2.0 | 0.22 | ug/L | 2 | | 8260B | Total/NA |
| Xylenes, Total | 2.4 | J | 4.0 | 0.40 | ug/L | 2 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

## Client Sample ID: MW-37 (Continued) — Lab Sample ID: 680-106392-23

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Isopropylbenzene | 1.1 | J | 2.0 | 0.20 | ug/L | 2 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 7.2 | | 2.0 | 0.50 | ug/L | 2 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 47 | | 2.0 | 0.56 | ug/L | 2 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 12 | | 2.0 | 0.42 | ug/L | 2 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 70 | | 10 | 0.50 | ug/L | 2 | | 8260B | Total/NA |

## Client Sample ID: PAN-MW-9 — Lab Sample ID: 680-106392-24

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 130 | | 10 | 1.8 | ug/L | 10 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 5.0 | J | 10 | 1.1 | ug/L | 10 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 5.4 | J | 10 | 2.0 | ug/L | 10 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 1900 | | 10 | 1.5 | ug/L | 10 | | 8260B | Total/NA |
| Benzene | 4.4 | J | 10 | 2.5 | ug/L | 10 | | 8260B | Total/NA |
| Trichloroethene | 35 | | 10 | 1.3 | ug/L | 10 | | 8260B | Total/NA |
| Tetrachloroethene | 17 | | 10 | 1.5 | ug/L | 10 | | 8260B | Total/NA |
| Chlorobenzene | 26 | | 10 | 2.5 | ug/L | 10 | | 8260B | Total/NA |
| Ethylbenzene | 650 | | 10 | 1.1 | ug/L | 10 | | 8260B | Total/NA |
| Xylenes, Total | 1800 | | 20 | 2.0 | ug/L | 10 | | 8260B | Total/NA |
| Isopropylbenzene | 29 | | 10 | 1.0 | ug/L | 10 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 8.6 | J | 10 | 2.5 | ug/L | 10 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 24 | | 10 | 2.8 | ug/L | 10 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 4.9 | J | 10 | 2.1 | ug/L | 10 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 12 | J | 50 | 2.5 | ug/L | 10 | | 8260B | Total/NA |

## Client Sample ID: PAN-MW-10 — Lab Sample ID: 680-106392-25

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 0.34 | J | 1.0 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 2.2 | J | 5.0 | 0.25 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: Trip Blank — Lab Sample ID: 680-106392-26

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: IW-1R**
**Date Collected: 10/17/14 11:27**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-1**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <50 | | 200 | 50 | ug/L | | | 10/22/14 14:32 | 200 |
| Chloromethane | <66 | | 200 | 66 | ug/L | | | 10/22/14 14:32 | 200 |
| **Vinyl chloride** | **450** | | 200 | 36 | ug/L | | | 10/22/14 14:32 | 200 |
| Bromomethane | <400 | | 1000 | 400 | ug/L | | | 10/22/14 14:32 | 200 |
| Chloroethane | <400 | | 1000 | 400 | ug/L | | | 10/22/14 14:32 | 200 |
| Trichlorofluoromethane | <50 | | 200 | 50 | ug/L | | | 10/22/14 14:32 | 200 |
| **1,1-Dichloroethene** | **40** | **J** | 200 | 22 | ug/L | | | 10/22/14 14:32 | 200 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <100 | | 200 | 100 | ug/L | | | 10/22/14 14:32 | 200 |
| Acetone | <1000 | | 2000 | 1000 | ug/L | | | 10/22/14 14:32 | 200 |
| Carbon disulfide | <120 | | 400 | 120 | ug/L | | | 10/22/14 14:32 | 200 |
| Methyl acetate | <38 | | 1000 | 38 | ug/L | | | 10/22/14 14:32 | 200 |
| Methylene Chloride | <200 | | 1000 | 200 | ug/L | | | 10/22/14 14:32 | 200 |
| **trans-1,2-Dichloroethene** | **54** | **J** | 200 | 40 | ug/L | | | 10/22/14 14:32 | 200 |
| Methyl tert-butyl ether | <40 | | 2000 | 40 | ug/L | | | 10/22/14 14:32 | 200 |
| 1,1-Dichloroethane | <50 | | 200 | 50 | ug/L | | | 10/22/14 14:32 | 200 |
| **cis-1,2-Dichloroethene** | **11000** | | 200 | 30 | ug/L | | | 10/22/14 14:32 | 200 |
| 2-Butanone | <200 | | 2000 | 200 | ug/L | | | 10/22/14 14:32 | 200 |
| **Chloroform** | **61** | **J** | 200 | 28 | ug/L | | | 10/22/14 14:32 | 200 |
| 1,1,1-Trichloroethane | <100 | | 200 | 100 | ug/L | | | 10/22/14 14:32 | 200 |
| Cyclohexane | <50 | | 200 | 50 | ug/L | | | 10/22/14 14:32 | 200 |
| Carbon tetrachloride | <100 | | 200 | 100 | ug/L | | | 10/22/14 14:32 | 200 |
| **Benzene** | **130** | **J** | 200 | 50 | ug/L | | | 10/22/14 14:32 | 200 |
| 1,2-Dichloroethane | <20 | | 200 | 20 | ug/L | | | 10/22/14 14:32 | 200 |
| **Trichloroethene** | **190** | **J** | 200 | 26 | ug/L | | | 10/22/14 14:32 | 200 |
| Methylcyclohexane | <20 | | 200 | 20 | ug/L | | | 10/22/14 14:32 | 200 |
| 1,2-Dichloropropane | <26 | | 200 | 26 | ug/L | | | 10/22/14 14:32 | 200 |
| Bromodichloromethane | <50 | | 200 | 50 | ug/L | | | 10/22/14 14:32 | 200 |
| cis-1,3-Dichloropropene | <22 | | 200 | 22 | ug/L | | | 10/22/14 14:32 | 200 |
| 4-Methyl-2-pentanone | <200 | | 2000 | 200 | ug/L | | | 10/22/14 14:32 | 200 |
| **Toluene** | **320** | | 200 | 66 | ug/L | | | 10/22/14 14:32 | 200 |
| trans-1,3-Dichloropropene | <42 | | 200 | 42 | ug/L | | | 10/22/14 14:32 | 200 |
| 1,1,2-Trichloroethane | <26 | | 200 | 26 | ug/L | | | 10/22/14 14:32 | 200 |
| **Tetrachloroethene** | **170** | **J** | 200 | 30 | ug/L | | | 10/22/14 14:32 | 200 |
| 2-Hexanone | <200 | | 2000 | 200 | ug/L | | | 10/22/14 14:32 | 200 |
| Dibromochloromethane | <20 | | 200 | 20 | ug/L | | | 10/22/14 14:32 | 200 |
| 1,2-Dibromoethane | <50 | | 200 | 50 | ug/L | | | 10/22/14 14:32 | 200 |
| **Chlorobenzene** | **740** | | 200 | 50 | ug/L | | | 10/22/14 14:32 | 200 |
| **Ethylbenzene** | **2200** | | 200 | 22 | ug/L | | | 10/22/14 14:32 | 200 |
| **Xylenes, Total** | **19000** | | 400 | 40 | ug/L | | | 10/22/14 14:32 | 200 |
| Styrene | <22 | | 200 | 22 | ug/L | | | 10/22/14 14:32 | 200 |
| Bromoform | <100 | | 200 | 100 | ug/L | | | 10/22/14 14:32 | 200 |
| **Isopropylbenzene** | **43** | **J** | 200 | 20 | ug/L | | | 10/22/14 14:32 | 200 |
| 1,1,2,2-Tetrachloroethane | <36 | | 200 | 36 | ug/L | | | 10/22/14 14:32 | 200 |
| **1,3-Dichlorobenzene** | **79** | **J** | 200 | 50 | ug/L | | | 10/22/14 14:32 | 200 |
| **1,4-Dichlorobenzene** | **530** | | 200 | 56 | ug/L | | | 10/22/14 14:32 | 200 |
| **1,2-Dichlorobenzene** | **130** | **J** | 200 | 42 | ug/L | | | 10/22/14 14:32 | 200 |
| 1,2-Dibromo-3-Chloropropane | <88 | | 1000 | 88 | ug/L | | | 10/22/14 14:32 | 200 |
| **1,2,4-Trichlorobenzene** | **830** | **J** | 1000 | 50 | ug/L | | | 10/22/14 14:32 | 200 |

**Client Sample ID: IW-1R** — **Lab Sample ID: 680-106392-1**
**Date Collected: 10/17/14 11:27** — **Matrix: Water**
**Date Received: 10/18/14 07:50**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *89* | | *70 - 130* | | *10/22/14 14:32* | *200* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 130* | | *10/22/14 14:32* | *200* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *10/22/14 14:32* | *200* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *70 - 130* | | *10/22/14 14:32* | *200* |

**Client Sample ID: IW-18** — **Lab Sample ID: 680-106392-2**
**Date Collected: 10/17/14 08:32** — **Matrix: Water**
**Date Received: 10/18/14 07:50**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <13 | | 50 | 13 | ug/L | | | 10/22/14 14:10 | 50 |
| Chloromethane | <17 | | 50 | 17 | ug/L | | | 10/22/14 14:10 | 50 |
| **Vinyl chloride** | **1500** | | 50 | 9.0 | ug/L | | | 10/22/14 14:10 | 50 |
| Bromomethane | <100 | | 250 | 100 | ug/L | | | 10/22/14 14:10 | 50 |
| Chloroethane | <100 | | 250 | 100 | ug/L | | | 10/22/14 14:10 | 50 |
| Trichlorofluoromethane | <13 | | 50 | 13 | ug/L | | | 10/22/14 14:10 | 50 |
| **1,1-Dichloroethene** | **7.7** | **J** | 50 | 5.5 | ug/L | | | 10/22/14 14:10 | 50 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <25 | | 50 | 25 | ug/L | | | 10/22/14 14:10 | 50 |
| Acetone | <250 | | 500 | 250 | ug/L | | | 10/22/14 14:10 | 50 |
| Carbon disulfide | <30 | | 100 | 30 | ug/L | | | 10/22/14 14:10 | 50 |
| Methyl acetate | <9.5 | | 250 | 9.5 | ug/L | | | 10/22/14 14:10 | 50 |
| Methylene Chloride | <50 | | 250 | 50 | ug/L | | | 10/22/14 14:10 | 50 |
| **trans-1,2-Dichloroethene** | **14** | **J** | 50 | 10 | ug/L | | | 10/22/14 14:10 | 50 |
| Methyl tert-butyl ether | <10 | | 500 | 10 | ug/L | | | 10/22/14 14:10 | 50 |
| 1,1-Dichloroethane | <13 | | 50 | 13 | ug/L | | | 10/22/14 14:10 | 50 |
| **cis-1,2-Dichloroethene** | **2900** | | 50 | 7.5 | ug/L | | | 10/22/14 14:10 | 50 |
| 2-Butanone | <50 | | 500 | 50 | ug/L | | | 10/22/14 14:10 | 50 |
| Chloroform | <7.0 | | 50 | 7.0 | ug/L | | | 10/22/14 14:10 | 50 |
| 1,1,1-Trichloroethane | <25 | | 50 | 25 | ug/L | | | 10/22/14 14:10 | 50 |
| Cyclohexane | <13 | | 50 | 13 | ug/L | | | 10/22/14 14:10 | 50 |
| Carbon tetrachloride | <25 | | 50 | 25 | ug/L | | | 10/22/14 14:10 | 50 |
| **Benzene** | **170** | | 50 | 13 | ug/L | | | 10/22/14 14:10 | 50 |
| 1,2-Dichloroethane | <5.0 | | 50 | 5.0 | ug/L | | | 10/22/14 14:10 | 50 |
| **Trichloroethene** | **12** | **J** | 50 | 6.5 | ug/L | | | 10/22/14 14:10 | 50 |
| Methylcyclohexane | <5.0 | | 50 | 5.0 | ug/L | | | 10/22/14 14:10 | 50 |
| 1,2-Dichloropropane | <6.5 | | 50 | 6.5 | ug/L | | | 10/22/14 14:10 | 50 |
| Bromodichloromethane | <13 | | 50 | 13 | ug/L | | | 10/22/14 14:10 | 50 |
| cis-1,3-Dichloropropene | <5.5 | | 50 | 5.5 | ug/L | | | 10/22/14 14:10 | 50 |
| 4-Methyl-2-pentanone | <50 | | 500 | 50 | ug/L | | | 10/22/14 14:10 | 50 |
| **Toluene** | **28** | **J** | 50 | 17 | ug/L | | | 10/22/14 14:10 | 50 |
| trans-1,3-Dichloropropene | <11 | | 50 | 11 | ug/L | | | 10/22/14 14:10 | 50 |
| 1,1,2-Trichloroethane | <6.5 | | 50 | 6.5 | ug/L | | | 10/22/14 14:10 | 50 |
| **Tetrachloroethene** | **11** | **J** | 50 | 7.5 | ug/L | | | 10/22/14 14:10 | 50 |
| 2-Hexanone | <50 | | 500 | 50 | ug/L | | | 10/22/14 14:10 | 50 |
| Dibromochloromethane | <5.0 | | 50 | 5.0 | ug/L | | | 10/22/14 14:10 | 50 |
| 1,2-Dibromoethane | <13 | | 50 | 13 | ug/L | | | 10/22/14 14:10 | 50 |
| **Chlorobenzene** | **870** | | 50 | 13 | ug/L | | | 10/22/14 14:10 | 50 |
| **Ethylbenzene** | **130** | | 50 | 5.5 | ug/L | | | 10/22/14 14:10 | 50 |
| **Xylenes, Total** | **1100** | | 100 | 10 | ug/L | | | 10/22/14 14:10 | 50 |

**Client Sample ID: IW-18**
**Date Collected: 10/17/14 08:32**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-2**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <5.5 | | 50 | 5.5 | ug/L | | | 10/22/14 14:10 | 50 |
| Bromoform | <25 | | 50 | 25 | ug/L | | | 10/22/14 14:10 | 50 |
| **Isopropylbenzene** | **5.3** | **J** | 50 | 5.0 | ug/L | | | 10/22/14 14:10 | 50 |
| 1,1,2,2-Tetrachloroethane | <9.0 | | 50 | 9.0 | ug/L | | | 10/22/14 14:10 | 50 |
| **1,3-Dichlorobenzene** | **18** | **J** | 50 | 13 | ug/L | | | 10/22/14 14:10 | 50 |
| **1,4-Dichlorobenzene** | **87** | | 50 | 14 | ug/L | | | 10/22/14 14:10 | 50 |
| **1,2-Dichlorobenzene** | **25** | **J** | 50 | 11 | ug/L | | | 10/22/14 14:10 | 50 |
| 1,2-Dibromo-3-Chloropropane | <22 | | 250 | 22 | ug/L | | | 10/22/14 14:10 | 50 |
| **1,2,4-Trichlorobenzene** | **27** | **J** | 250 | 13 | ug/L | | | 10/22/14 14:10 | 50 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *88* | | *70 - 130* | | *10/22/14 14:10* | *50* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* | | *10/22/14 14:10* | *50* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *10/22/14 14:10* | *50* |
| *4-Bromofluorobenzene (Surr)* | *90* | | *70 - 130* | | *10/22/14 14:10* | *50* |

**Client Sample ID: LAW-PZ-8R**
**Date Collected: 10/17/14 10:03**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-3**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <250 | | 1000 | 250 | ug/L | | | 10/22/14 14:55 | 1000 |
| Chloromethane | <330 | | 1000 | 330 | ug/L | | | 10/22/14 14:55 | 1000 |
| **Vinyl chloride** | **1900** | | 1000 | 180 | ug/L | | | 10/22/14 14:55 | 1000 |
| Bromomethane | <2000 | | 5000 | 2000 | ug/L | | | 10/22/14 14:55 | 1000 |
| Chloroethane | <2000 | | 5000 | 2000 | ug/L | | | 10/22/14 14:55 | 1000 |
| Trichlorofluoromethane | <250 | | 1000 | 250 | ug/L | | | 10/22/14 14:55 | 1000 |
| 1,1-Dichloroethene | <110 | | 1000 | 110 | ug/L | | | 10/22/14 14:55 | 1000 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <500 | | 1000 | 500 | ug/L | | | 10/22/14 14:55 | 1000 |
| **Acetone** | **8600** | **J** | 10000 | 5000 | ug/L | | | 10/22/14 14:55 | 1000 |
| Carbon disulfide | <600 | | 2000 | 600 | ug/L | | | 10/22/14 14:55 | 1000 |
| Methyl acetate | <190 | | 5000 | 190 | ug/L | | | 10/22/14 14:55 | 1000 |
| Methylene Chloride | <1000 | | 5000 | 1000 | ug/L | | | 10/22/14 14:55 | 1000 |
| trans-1,2-Dichloroethene | <200 | | 1000 | 200 | ug/L | | | 10/22/14 14:55 | 1000 |
| Methyl tert-butyl ether | <200 | | 10000 | 200 | ug/L | | | 10/22/14 14:55 | 1000 |
| 1,1-Dichloroethane | <250 | | 1000 | 250 | ug/L | | | 10/22/14 14:55 | 1000 |
| **cis-1,2-Dichloroethene** | **15000** | | 1000 | 150 | ug/L | | | 10/22/14 14:55 | 1000 |
| 2-Butanone | <1000 | | 10000 | 1000 | ug/L | | | 10/22/14 14:55 | 1000 |
| Chloroform | <140 | | 1000 | 140 | ug/L | | | 10/22/14 14:55 | 1000 |
| 1,1,1-Trichloroethane | <500 | | 1000 | 500 | ug/L | | | 10/22/14 14:55 | 1000 |
| Cyclohexane | <250 | | 1000 | 250 | ug/L | | | 10/22/14 14:55 | 1000 |
| Carbon tetrachloride | <500 | | 1000 | 500 | ug/L | | | 10/22/14 14:55 | 1000 |
| **Benzene** | **3400** | | 1000 | 250 | ug/L | | | 10/22/14 14:55 | 1000 |
| 1,2-Dichloroethane | <100 | | 1000 | 100 | ug/L | | | 10/22/14 14:55 | 1000 |
| Trichloroethene | <130 | | 1000 | 130 | ug/L | | | 10/22/14 14:55 | 1000 |
| Methylcyclohexane | <100 | | 1000 | 100 | ug/L | | | 10/22/14 14:55 | 1000 |
| 1,2-Dichloropropane | <130 | | 1000 | 130 | ug/L | | | 10/22/14 14:55 | 1000 |
| Bromodichloromethane | <250 | | 1000 | 250 | ug/L | | | 10/22/14 14:55 | 1000 |
| cis-1,3-Dichloropropene | <110 | | 1000 | 110 | ug/L | | | 10/22/14 14:55 | 1000 |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: LAW-PZ-8R**
**Date Collected: 10/17/14 10:03**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-3**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <1000 | | 10000 | 1000 | ug/L | | | 10/22/14 14:55 | 1000 |
| **Toluene** | **1100** | | 1000 | 330 | ug/L | | | 10/22/14 14:55 | 1000 |
| trans-1,3-Dichloropropene | <210 | | 1000 | 210 | ug/L | | | 10/22/14 14:55 | 1000 |
| 1,1,2-Trichloroethane | <130 | | 1000 | 130 | ug/L | | | 10/22/14 14:55 | 1000 |
| Tetrachloroethene | <150 | | 1000 | 150 | ug/L | | | 10/22/14 14:55 | 1000 |
| 2-Hexanone | <1000 | | 10000 | 1000 | ug/L | | | 10/22/14 14:55 | 1000 |
| Dibromochloromethane | <100 | | 1000 | 100 | ug/L | | | 10/22/14 14:55 | 1000 |
| 1,2-Dibromoethane | <250 | | 1000 | 250 | ug/L | | | 10/22/14 14:55 | 1000 |
| **Chlorobenzene** | **7900** | | 1000 | 250 | ug/L | | | 10/22/14 14:55 | 1000 |
| **Ethylbenzene** | **13000** | | 1000 | 110 | ug/L | | | 10/22/14 14:55 | 1000 |
| **Xylenes, Total** | **180000** | | 2000 | 200 | ug/L | | | 10/22/14 14:55 | 1000 |
| Styrene | <110 | | 1000 | 110 | ug/L | | | 10/22/14 14:55 | 1000 |
| Bromoform | <500 | | 1000 | 500 | ug/L | | | 10/22/14 14:55 | 1000 |
| **Isopropylbenzene** | **200** | **J** | 1000 | 100 | ug/L | | | 10/22/14 14:55 | 1000 |
| 1,1,2,2-Tetrachloroethane | <180 | | 1000 | 180 | ug/L | | | 10/22/14 14:55 | 1000 |
| **1,3-Dichlorobenzene** | **300** | **J** | 1000 | 250 | ug/L | | | 10/22/14 14:55 | 1000 |
| **1,4-Dichlorobenzene** | **1900** | | 1000 | 280 | ug/L | | | 10/22/14 14:55 | 1000 |
| **1,2-Dichlorobenzene** | **600** | **J** | 1000 | 210 | ug/L | | | 10/22/14 14:55 | 1000 |
| 1,2-Dibromo-3-Chloropropane | <440 | | 5000 | 440 | ug/L | | | 10/22/14 14:55 | 1000 |
| **1,2,4-Trichlorobenzene** | **310** | **J** | 5000 | 250 | ug/L | | | 10/22/14 14:55 | 1000 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *87* | | *70 - 130* | | *10/22/14 14:55* | *1000* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* | | *10/22/14 14:55* | *1000* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *10/22/14 14:55* | *1000* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *70 - 130* | | *10/22/14 14:55* | *1000* |

### Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **59** | | 2.0 | 1.0 | mg/L | | | 10/28/14 19:51 | 4 |
| Nitrate as N | <0.13 | | 0.25 | 0.13 | mg/L | | | 10/18/14 12:35 | 5 |
| Nitrite as N | <0.13 | | 0.25 | 0.13 | mg/L | | | 10/18/14 12:35 | 5 |
| Sulfate | <1.0 | | 2.0 | 1.0 | mg/L | | | 10/28/14 19:51 | 4 |

### Method: 6010C - Metals (ICP) - Total Recoverable

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Iron** | **63000** | | 50 | 24 | ug/L | | 10/20/14 13:30 | 10/21/14 22:15 | 1 |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Sulfide | <10 | | 10 | 10 | mg/L | | 10/22/14 10:47 | 10/22/14 10:47 | 1 |
| **Total Organic Carbon** | **140** | | 4.0 | 2.0 | mg/L | | | 10/28/14 19:03 | 4 |

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Alkalinity** | **240** | | 5.0 | 5.0 | mg/L | | | 10/23/14 19:18 | 1 |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: MW-14**
**Date Collected: 10/13/14 16:32**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-4**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:59 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 12:59 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 12:59 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 12:59 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 12:59 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 12:59 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 12:59 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/23/14 12:59 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/23/14 12:59 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/23/14 12:59 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/23/14 12:59 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:59 | 1 |
| cis-1,2-Dichloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 12:59 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 12:59 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 12:59 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:59 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 12:59 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 12:59 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 12:59 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 12:59 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:59 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 12:59 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 12:59 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 12:59 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 12:59 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 12:59 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 12:59 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:59 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:59 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 12:59 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/23/14 12:59 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 12:59 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 12:59 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/23/14 12:59 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/23/14 12:59 | 1 |

**Client Sample ID: MW-14** — **Lab Sample ID: 680-106392-4**
**Date Collected: 10/13/14 16:32** — **Matrix: Water**
**Date Received: 10/18/14 07:50**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* | | *10/23/14 12:59* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* | | *10/23/14 12:59* | *1* |
| *Dibromofluoromethane (Surr)* | *102* | | *70 - 130* | | *10/23/14 12:59* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *10/23/14 12:59* | *1* |

**Client Sample ID: MW-16** — **Lab Sample ID: 680-106392-5**
**Date Collected: 10/13/14 18:04** — **Matrix: Water**
**Date Received: 10/18/14 07:50**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:32 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 11:32 | 1 |
| **Vinyl chloride** | **81** | | 1.0 | 0.18 | ug/L | | | 10/22/14 11:32 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 11:32 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 11:32 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:32 | 1 |
| **1,1-Dichloroethene** | **0.36** | **J** | 1.0 | 0.11 | ug/L | | | 10/22/14 11:32 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 11:32 | 1 |
| **Acetone** | **7.3** | **J** | 10 | 5.0 | ug/L | | | 10/22/14 11:32 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/22/14 11:32 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/22/14 11:32 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/22/14 11:32 | 1 |
| **trans-1,2-Dichloroethene** | **0.51** | **J** | 1.0 | 0.20 | ug/L | | | 10/22/14 11:32 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/22/14 11:32 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:32 | 1 |
| **cis-1,2-Dichloroethene** | **130** | | 1.0 | 0.15 | ug/L | | | 10/22/14 11:32 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 11:32 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/22/14 11:32 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 11:32 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:32 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 11:32 | 1 |
| **Benzene** | **1.3** | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:32 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 11:32 | 1 |
| **Trichloroethene** | **0.34** | **J** | 1.0 | 0.13 | ug/L | | | 10/22/14 11:32 | 1 |
| **Methylcyclohexane** | **0.17** | **J** | 1.0 | 0.10 | ug/L | | | 10/22/14 11:32 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 11:32 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:32 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 11:32 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 11:32 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 11:32 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/22/14 11:32 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 11:32 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/22/14 11:32 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 11:32 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 11:32 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:32 | 1 |
| **Chlorobenzene** | **7.6** | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:32 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 11:32 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/22/14 11:32 | 1 |

**Client Sample ID: MW-16** — **Lab Sample ID: 680-106392-5**
**Date Collected: 10/13/14 18:04** — **Matrix: Water**
**Date Received: 10/18/14 07:50**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 11:32 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 11:32 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 11:32 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/22/14 11:32 | 1 |
| **1,3-Dichlorobenzene** | **1.6** | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:32 | 1 |
| **1,4-Dichlorobenzene** | **3.1** | | 1.0 | 0.28 | ug/L | | | 10/22/14 11:32 | 1 |
| **1,2-Dichlorobenzene** | **0.43** | **J** | 1.0 | 0.21 | ug/L | | | 10/22/14 11:32 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/22/14 11:32 | 1 |
| **1,2,4-Trichlorobenzene** | **0.87** | **J** | 5.0 | 0.25 | ug/L | | | 10/22/14 11:32 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *91* | | *70 - 130* | | *10/22/14 11:32* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *85* | | *70 - 130* | | *10/22/14 11:32* | *1* |
| *Dibromofluoromethane (Surr)* | *95* | | *70 - 130* | | *10/22/14 11:32* | *1* |
| *4-Bromofluorobenzene (Surr)* | *91* | | *70 - 130* | | *10/22/14 11:32* | *1* |

**Client Sample ID: MW-17R** — **Lab Sample ID: 680-106392-6**
**Date Collected: 10/16/14 17:35** — **Matrix: Water**
**Date Received: 10/18/14 07:50**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:54 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 11:54 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/22/14 11:54 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 11:54 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 11:54 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 11:54 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/22/14 11:54 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/22/14 11:54 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/22/14 11:54 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/22/14 11:54 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/22/14 11:54 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:54 | 1 |
| cis-1,2-Dichloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/22/14 11:54 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 11:54 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 11:54 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:54 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 11:54 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 11:54 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 11:54 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 11:54 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:54 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 11:54 | 1 |

## Client Sample ID: MW-17R

**Lab Sample ID: 680-106392-6**

**Date Collected: 10/16/14 17:35**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 11:54 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 11:54 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 11:54 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/22/14 11:54 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 11:54 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:54 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:54 | 1 |
| **Ethylbenzene** | **0.66** | **J** | 1.0 | 0.11 | ug/L | | | 10/22/14 11:54 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/22/14 11:54 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 11:54 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 11:54 | 1 |
| **Isopropylbenzene** | **50** | | 1.0 | 0.10 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/22/14 11:54 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/22/14 11:54 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *82* | | *70 - 130* | | *10/22/14 11:54* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *88* | | *70 - 130* | | *10/22/14 11:54* | *1* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* | | *10/22/14 11:54* | *1* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* | | *10/22/14 11:54* | *1* |

## Client Sample ID: MW-18R

**Lab Sample ID: 680-106392-7**

**Date Collected: 10/14/14 13:09**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Dichlorodifluoromethane** | **2.5** | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:17 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 12:17 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/22/14 12:17 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 12:17 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 12:17 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:17 | 1 |
| **1,1-Dichloroethene** | **0.58** | **J** | 1.0 | 0.11 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 12:17 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/22/14 12:17 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/22/14 12:17 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/22/14 12:17 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/22/14 12:17 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/22/14 12:17 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/22/14 12:17 | 1 |
| **1,1-Dichloroethane** | **0.35** | **J** | 1.0 | 0.25 | ug/L | | | 10/22/14 12:17 | 1 |
| cis-1,2-Dichloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/22/14 12:17 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 12:17 | 1 |

## Client Sample ID: MW-18R

**Lab Sample ID: 680-106392-7**

**Date Collected: 10/14/14 13:09**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 12:17 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:17 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 12:17 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 12:17 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 12:17 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 12:17 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:17 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 12:17 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 12:17 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 12:17 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 12:17 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/22/14 12:17 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 12:17 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:17 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:17 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 12:17 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/22/14 12:17 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 12:17 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 12:17 | 1 |
| **Isopropylbenzene** | **0.12** | **J** | 1.0 | 0.10 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/22/14 12:17 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/22/14 12:17 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *93* | | *70 - 130* | | *10/22/14 12:17* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *85* | | *70 - 130* | | *10/22/14 12:17* | *1* |
| *Dibromofluoromethane (Surr)* | *93* | | *70 - 130* | | *10/22/14 12:17* | *1* |
| *4-Bromofluorobenzene (Surr)* | *90* | | *70 - 130* | | *10/22/14 12:17* | *1* |

## Client Sample ID: MW-19

**Lab Sample ID: 680-106392-8**

**Date Collected: 10/13/14 14:15**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:39 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 12:39 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/22/14 12:39 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 12:39 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 12:39 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:39 | 1 |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: MW-19**
**Date Collected: 10/13/14 14:15**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-8**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 12:39 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/22/14 12:39 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/22/14 12:39 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/22/14 12:39 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/22/14 12:39 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/22/14 12:39 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:39 | 1 |
| cis-1,2-Dichloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/22/14 12:39 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 12:39 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 12:39 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:39 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 12:39 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 12:39 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 12:39 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 12:39 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:39 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 12:39 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 12:39 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 12:39 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 12:39 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/22/14 12:39 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 12:39 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:39 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:39 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 12:39 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/22/14 12:39 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 12:39 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 12:39 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 12:39 | 1 |
| **1,4-Dichlorobenzene** | **0.35** | **J** | 1.0 | 0.28 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/22/14 12:39 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/22/14 12:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *93* | | *70 - 130* | | *10/22/14 12:39* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *87* | | *70 - 130* | | *10/22/14 12:39* | *1* |
| *Dibromofluoromethane (Surr)* | *91* | | *70 - 130* | | *10/22/14 12:39* | *1* |
| *4-Bromofluorobenzene (Surr)* | *90* | | *70 - 130* | | *10/22/14 12:39* | *1* |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: MW-24R**
**Date Collected: 10/14/14 11:23**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-9**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/22/14 13:25 | 5 |
| Chloromethane | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/22/14 13:25 | 5 |
| **Vinyl chloride** | **38** | | 5.0 | 0.90 | ug/L | | | 10/22/14 13:25 | 5 |
| Bromomethane | <10 | | 25 | 10 | ug/L | | | 10/22/14 13:25 | 5 |
| Chloroethane | <10 | | 25 | 10 | ug/L | | | 10/22/14 13:25 | 5 |
| Trichlorofluoromethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/22/14 13:25 | 5 |
| **1,1-Dichloroethene** | **1.1** | **J** | 5.0 | 0.55 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/22/14 13:25 | 5 |
| **Acetone** | **55** | | 50 | 25 | ug/L | | | 10/22/14 13:25 | 5 |
| Carbon disulfide | <3.0 | | 10 | 3.0 | ug/L | | | 10/22/14 13:25 | 5 |
| Methyl acetate | <0.95 | | 25 | 0.95 | ug/L | | | 10/22/14 13:25 | 5 |
| Methylene Chloride | <5.0 | | 25 | 5.0 | ug/L | | | 10/22/14 13:25 | 5 |
| trans-1,2-Dichloroethene | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/22/14 13:25 | 5 |
| **Methyl tert-butyl ether** | **160** | | 50 | 1.0 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,1-Dichloroethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/22/14 13:25 | 5 |
| **cis-1,2-Dichloroethene** | **360** | | 5.0 | 0.75 | ug/L | | | 10/22/14 13:25 | 5 |
| 2-Butanone | <5.0 | | 50 | 5.0 | ug/L | | | 10/22/14 13:25 | 5 |
| Chloroform | <0.70 | | 5.0 | 0.70 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,1,1-Trichloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/22/14 13:25 | 5 |
| Cyclohexane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/22/14 13:25 | 5 |
| Carbon tetrachloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/22/14 13:25 | 5 |
| **Benzene** | **5.6** | | 5.0 | 1.3 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,2-Dichloroethane | <0.50 | | 5.0 | 0.50 | ug/L | | | 10/22/14 13:25 | 5 |
| Trichloroethene | <0.65 | | 5.0 | 0.65 | ug/L | | | 10/22/14 13:25 | 5 |
| Methylcyclohexane | <0.50 | | 5.0 | 0.50 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,2-Dichloropropane | <0.65 | | 5.0 | 0.65 | ug/L | | | 10/22/14 13:25 | 5 |
| Bromodichloromethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/22/14 13:25 | 5 |
| cis-1,3-Dichloropropene | <0.55 | | 5.0 | 0.55 | ug/L | | | 10/22/14 13:25 | 5 |
| 4-Methyl-2-pentanone | <5.0 | | 50 | 5.0 | ug/L | | | 10/22/14 13:25 | 5 |
| Toluene | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/22/14 13:25 | 5 |
| trans-1,3-Dichloropropene | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,1,2-Trichloroethane | <0.65 | | 5.0 | 0.65 | ug/L | | | 10/22/14 13:25 | 5 |
| **Tetrachloroethene** | **1.7** | **J** | 5.0 | 0.75 | ug/L | | | 10/22/14 13:25 | 5 |
| 2-Hexanone | <5.0 | | 50 | 5.0 | ug/L | | | 10/22/14 13:25 | 5 |
| Dibromochloromethane | <0.50 | | 5.0 | 0.50 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,2-Dibromoethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/22/14 13:25 | 5 |
| Chlorobenzene | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/22/14 13:25 | 5 |
| **Ethylbenzene** | **1.3** | **J** | 5.0 | 0.55 | ug/L | | | 10/22/14 13:25 | 5 |
| Xylenes, Total | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 13:25 | 5 |
| Styrene | <0.55 | | 5.0 | 0.55 | ug/L | | | 10/22/14 13:25 | 5 |
| Bromoform | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/22/14 13:25 | 5 |
| Isopropylbenzene | <0.50 | | 5.0 | 0.50 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,1,2,2-Tetrachloroethane | <0.90 | | 5.0 | 0.90 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,3-Dichlorobenzene | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,4-Dichlorobenzene | <1.4 | | 5.0 | 1.4 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,2-Dichlorobenzene | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,2-Dibromo-3-Chloropropane | <2.2 | | 25 | 2.2 | ug/L | | | 10/22/14 13:25 | 5 |
| 1,2,4-Trichlorobenzene | <1.3 | | 25 | 1.3 | ug/L | | | 10/22/14 13:25 | 5 |

**Client Sample ID: MW-24R**
**Date Collected: 10/14/14 11:23**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-9**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *87* | | *70 - 130* | | *10/22/14 13:25* | *5* |
| *1,2-Dichloroethane-d4 (Surr)* | *101* | | *70 - 130* | | *10/22/14 13:25* | *5* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* | | *10/22/14 13:25* | *5* |
| *4-Bromofluorobenzene (Surr)* | *90* | | *70 - 130* | | *10/22/14 13:25* | *5* |

**Client Sample ID: MW-23**
**Date Collected: 10/13/14 12:06**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-10**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 13:02 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 13:02 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/22/14 13:02 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 13:02 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 13:02 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 13:02 | 1 |
| **Acetone** | **5.5** | **J** | 10 | 5.0 | ug/L | | | 10/22/14 13:02 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/22/14 13:02 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/22/14 13:02 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/22/14 13:02 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/22/14 13:02 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 13:02 | 1 |
| cis-1,2-Dichloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/22/14 13:02 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 13:02 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 13:02 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 13:02 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 13:02 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 13:02 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 13:02 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 13:02 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 13:02 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 13:02 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 13:02 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 13:02 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 13:02 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/22/14 13:02 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 13:02 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 13:02 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 13:02 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 13:02 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/22/14 13:02 | 1 |

## Client Sample ID: MW-23

**Date Collected: 10/13/14 12:06**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-10**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 13:02 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 13:02 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/22/14 13:02 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/22/14 13:02 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *92* | | *70 - 130* | | *10/22/14 13:02* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *87* | | *70 - 130* | | *10/22/14 13:02* | *1* |
| *Dibromofluoromethane (Surr)* | *93* | | *70 - 130* | | *10/22/14 13:02* | *1* |
| *4-Bromofluorobenzene (Surr)* | *89* | | *70 - 130* | | *10/22/14 13:02* | *1* |

## Client Sample ID: MW-25

**Date Collected: 10/13/14 10:17**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-11**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:19 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 13:19 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 13:19 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 13:19 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 13:19 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:19 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 13:19 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/23/14 13:19 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/23/14 13:19 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/23/14 13:19 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/23/14 13:19 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:19 | 1 |
| cis-1,2-Dichloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 13:19 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 13:19 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:19 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:19 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:19 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 13:19 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 13:19 | 1 |
| **Methylcyclohexane** | **0.28** | **J** | 1.0 | 0.10 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 13:19 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:19 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 13:19 | 1 |

## Client Sample ID: MW-25

**Date Collected: 10/13/14 10:17**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-11**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 13:19 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 13:19 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 13:19 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 13:19 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 13:19 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:19 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:19 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 13:19 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/23/14 13:19 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 13:19 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:19 | 1 |
| **Isopropylbenzene** | **0.34** | **J** | 1.0 | 0.10 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/23/14 13:19 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/23/14 13:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* | | *10/23/14 13:19* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* | | *10/23/14 13:19* | *1* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* | | *10/23/14 13:19* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *10/23/14 13:19* | *1* |

## Client Sample ID: MW-26R

**Date Collected: 10/15/14 16:30**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-12**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 17:30 | 5 |
| Chloromethane | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/24/14 17:30 | 5 |
| **Vinyl chloride** | **7.3** | | 5.0 | 0.90 | ug/L | | | 10/24/14 17:30 | 5 |
| Bromomethane | <10 | | 25 | 10 | ug/L | | | 10/24/14 17:30 | 5 |
| Chloroethane | <10 | | 25 | 10 | ug/L | | | 10/24/14 17:30 | 5 |
| Trichlorofluoromethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,1-Dichloroethene | <0.55 | | 5.0 | 0.55 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/24/14 17:30 | 5 |
| Acetone | <25 | | 50 | 25 | ug/L | | | 10/24/14 17:30 | 5 |
| Carbon disulfide | <3.0 | | 10 | 3.0 | ug/L | | | 10/24/14 17:30 | 5 |
| Methyl acetate | <0.95 | | 25 | 0.95 | ug/L | | | 10/24/14 17:30 | 5 |
| Methylene Chloride | <5.0 | | 25 | 5.0 | ug/L | | | 10/24/14 17:30 | 5 |
| **trans-1,2-Dichloroethene** | **1.1** | **J** | 5.0 | 1.0 | ug/L | | | 10/24/14 17:30 | 5 |
| Methyl tert-butyl ether | <1.0 | | 50 | 1.0 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,1-Dichloroethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 17:30 | 5 |
| **cis-1,2-Dichloroethene** | **7.2** | | 5.0 | 0.75 | ug/L | | | 10/24/14 17:30 | 5 |
| 2-Butanone | <5.0 | | 50 | 5.0 | ug/L | | | 10/24/14 17:30 | 5 |

**Client Sample ID: MW-26R**
**Date Collected: 10/15/14 16:30**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-12**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloroform** | **0.74** | **J** | 5.0 | 0.70 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,1,1-Trichloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/24/14 17:30 | 5 |
| Cyclohexane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 17:30 | 5 |
| Carbon tetrachloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/24/14 17:30 | 5 |
| **Benzene** | **19** | | 5.0 | 1.3 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,2-Dichloroethane | <0.50 | | 5.0 | 0.50 | ug/L | | | 10/24/14 17:30 | 5 |
| **Trichloroethene** | **4.1** | **J** | 5.0 | 0.65 | ug/L | | | 10/24/14 17:30 | 5 |
| Methylcyclohexane | <0.50 | | 5.0 | 0.50 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,2-Dichloropropane | <0.65 | | 5.0 | 0.65 | ug/L | | | 10/24/14 17:30 | 5 |
| Bromodichloromethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 17:30 | 5 |
| cis-1,3-Dichloropropene | <0.55 | | 5.0 | 0.55 | ug/L | | | 10/24/14 17:30 | 5 |
| 4-Methyl-2-pentanone | <5.0 | | 50 | 5.0 | ug/L | | | 10/24/14 17:30 | 5 |
| Toluene | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/24/14 17:30 | 5 |
| trans-1,3-Dichloropropene | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,1,2-Trichloroethane | <0.65 | | 5.0 | 0.65 | ug/L | | | 10/24/14 17:30 | 5 |
| Tetrachloroethene | <0.75 | | 5.0 | 0.75 | ug/L | | | 10/24/14 17:30 | 5 |
| 2-Hexanone | <5.0 | | 50 | 5.0 | ug/L | | | 10/24/14 17:30 | 5 |
| Dibromochloromethane | <0.50 | | 5.0 | 0.50 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,2-Dibromoethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 17:30 | 5 |
| **Chlorobenzene** | **88** | | 5.0 | 1.3 | ug/L | | | 10/24/14 17:30 | 5 |
| **Ethylbenzene** | **25** | | 5.0 | 0.55 | ug/L | | | 10/24/14 17:30 | 5 |
| **Xylenes, Total** | **400** | | 10 | 1.0 | ug/L | | | 10/24/14 17:30 | 5 |
| Styrene | <0.55 | | 5.0 | 0.55 | ug/L | | | 10/24/14 17:30 | 5 |
| Bromoform | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/24/14 17:30 | 5 |
| **Isopropylbenzene** | **1.5** | **J** | 5.0 | 0.50 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,1,2,2-Tetrachloroethane | <0.90 | | 5.0 | 0.90 | ug/L | | | 10/24/14 17:30 | 5 |
| **1,3-Dichlorobenzene** | **1.6** | **J** | 5.0 | 1.3 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,4-Dichlorobenzene | <1.4 | | 5.0 | 1.4 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,2-Dichlorobenzene | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,2-Dibromo-3-Chloropropane | <2.2 | | 25 | 2.2 | ug/L | | | 10/24/14 17:30 | 5 |
| 1,2,4-Trichlorobenzene | <1.3 | | 25 | 1.3 | ug/L | | | 10/24/14 17:30 | 5 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* | | *10/24/14 17:30* | *5* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* | | *10/24/14 17:30* | *5* |
| *Dibromofluoromethane (Surr)* | *111* | | *70 - 130* | | *10/24/14 17:30* | *5* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *10/24/14 17:30* | *5* |

**Client Sample ID: MW-27**
**Date Collected: 10/13/14 10:26**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-13**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:39 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 13:39 | 1 |
| **Vinyl chloride** | **12** | | 1.0 | 0.18 | ug/L | | | 10/23/14 13:39 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 13:39 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 13:39 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:39 | 1 |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: MW-27**
**Date Collected: 10/13/14 10:26**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-13**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:39 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 13:39 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/23/14 13:39 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/23/14 13:39 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/23/14 13:39 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/23/14 13:39 | 1 |
| **Methyl tert-butyl ether** | **0.48** | **J** | 10 | 0.20 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:39 | 1 |
| **cis-1,2-Dichloroethene** | **2.2** | | 1.0 | 0.15 | ug/L | | | 10/23/14 13:39 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 13:39 | 1 |
| **Chloroform** | **0.23** | **J** | 1.0 | 0.14 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:39 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:39 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:39 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 13:39 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 13:39 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 13:39 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:39 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 13:39 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 13:39 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 13:39 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 13:39 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 13:39 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 13:39 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:39 | 1 |
| **Chlorobenzene** | **4.4** | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:39 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 13:39 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/23/14 13:39 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 13:39 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:39 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 13:39 | 1 |
| **1,3-Dichlorobenzene** | **0.40** | **J** | 1.0 | 0.25 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/23/14 13:39 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/23/14 13:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* | | *10/23/14 13:39* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *99* | | *70 - 130* | | *10/23/14 13:39* | *1* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* | | *10/23/14 13:39* | *1* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | | *10/23/14 13:39* | *1* |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: MW-28**
**Date Collected: 10/17/14 14:32**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-14**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:59 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 13:59 | 1 |
| **Vinyl chloride** | **3.4** | | 1.0 | 0.18 | ug/L | | | 10/23/14 13:59 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 13:59 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 13:59 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:59 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 13:59 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/23/14 13:59 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/23/14 13:59 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/23/14 13:59 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/23/14 13:59 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:59 | 1 |
| **cis-1,2-Dichloroethene** | **14** | | 1.0 | 0.15 | ug/L | | | 10/23/14 13:59 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 13:59 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:59 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:59 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:59 | 1 |
| **Benzene** | **0.82** | **J** | 1.0 | 0.25 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 13:59 | 1 |
| **Trichloroethene** | **0.44** | **J** | 1.0 | 0.13 | ug/L | | | 10/23/14 13:59 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 13:59 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:59 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 13:59 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 13:59 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 13:59 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 13:59 | 1 |
| **Tetrachloroethene** | **2.3** | | 1.0 | 0.15 | ug/L | | | 10/23/14 13:59 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 13:59 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:59 | 1 |
| **Chlorobenzene** | **3.6** | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:59 | 1 |
| **Ethylbenzene** | **0.27** | **J** | 1.0 | 0.11 | ug/L | | | 10/23/14 13:59 | 1 |
| **Xylenes, Total** | **2.2** | | 2.0 | 0.20 | ug/L | | | 10/23/14 13:59 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 13:59 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 13:59 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 13:59 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/23/14 13:59 | 1 |
| **1,2,4-Trichlorobenzene** | **1.2** | **J** | 5.0 | 0.25 | ug/L | | | 10/23/14 13:59 | 1 |

## Client Sample ID: MW-28

**Lab Sample ID: 680-106392-14**

**Date Collected: 10/17/14 14:32**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* | | *10/23/14 13:59* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *70 - 130* | | *10/23/14 13:59* | *1* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* | | *10/23/14 13:59* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *10/23/14 13:59* | *1* |

## Client Sample ID: MW-29

**Lab Sample ID: 680-106392-15**

**Date Collected: 10/15/14 17:51**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <13 | | 50 | 13 | ug/L | | | 10/25/14 16:18 | 50 |
| Chloromethane | <17 | | 50 | 17 | ug/L | | | 10/25/14 16:18 | 50 |
| **Vinyl chloride** | **660** | | 50 | 9.0 | ug/L | | | 10/25/14 16:18 | 50 |
| Bromomethane | <100 | | 250 | 100 | ug/L | | | 10/25/14 16:18 | 50 |
| Chloroethane | <100 | | 250 | 100 | ug/L | | | 10/25/14 16:18 | 50 |
| Trichlorofluoromethane | <13 | | 50 | 13 | ug/L | | | 10/25/14 16:18 | 50 |
| 1,1-Dichloroethene | <5.5 | | 50 | 5.5 | ug/L | | | 10/25/14 16:18 | 50 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <25 | | 50 | 25 | ug/L | | | 10/25/14 16:18 | 50 |
| **Acetone** | **420** | **J** | 500 | 250 | ug/L | | | 10/25/14 16:18 | 50 |
| Carbon disulfide | <30 | | 100 | 30 | ug/L | | | 10/25/14 16:18 | 50 |
| Methyl acetate | <9.5 | | 250 | 9.5 | ug/L | | | 10/25/14 16:18 | 50 |
| Methylene Chloride | <50 | | 250 | 50 | ug/L | | | 10/25/14 16:18 | 50 |
| trans-1,2-Dichloroethene | <10 | | 50 | 10 | ug/L | | | 10/25/14 16:18 | 50 |
| Methyl tert-butyl ether | <10 | | 500 | 10 | ug/L | | | 10/25/14 16:18 | 50 |
| 1,1-Dichloroethane | <13 | | 50 | 13 | ug/L | | | 10/25/14 16:18 | 50 |
| **cis-1,2-Dichloroethene** | **4300** | | 50 | 7.5 | ug/L | | | 10/25/14 16:18 | 50 |
| 2-Butanone | <50 | | 500 | 50 | ug/L | | | 10/25/14 16:18 | 50 |
| **Chloroform** | **11** | **J** | 50 | 7.0 | ug/L | | | 10/25/14 16:18 | 50 |
| 1,1,1-Trichloroethane | <25 | | 50 | 25 | ug/L | | | 10/25/14 16:18 | 50 |
| Cyclohexane | <13 | | 50 | 13 | ug/L | | | 10/25/14 16:18 | 50 |
| Carbon tetrachloride | <25 | | 50 | 25 | ug/L | | | 10/25/14 16:18 | 50 |
| Benzene | <13 | | 50 | 13 | ug/L | | | 10/25/14 16:18 | 50 |
| 1,2-Dichloroethane | <5.0 | | 50 | 5.0 | ug/L | | | 10/25/14 16:18 | 50 |
| **Trichloroethene** | **55** | | 50 | 6.5 | ug/L | | | 10/25/14 16:18 | 50 |
| Methylcyclohexane | <5.0 | | 50 | 5.0 | ug/L | | | 10/25/14 16:18 | 50 |
| 1,2-Dichloropropane | <6.5 | | 50 | 6.5 | ug/L | | | 10/25/14 16:18 | 50 |
| Bromodichloromethane | <13 | | 50 | 13 | ug/L | | | 10/25/14 16:18 | 50 |
| cis-1,3-Dichloropropene | <5.5 | | 50 | 5.5 | ug/L | | | 10/25/14 16:18 | 50 |
| 4-Methyl-2-pentanone | <50 | | 500 | 50 | ug/L | | | 10/25/14 16:18 | 50 |
| **Toluene** | **21** | **J** | 50 | 17 | ug/L | | | 10/25/14 16:18 | 50 |
| trans-1,3-Dichloropropene | <11 | | 50 | 11 | ug/L | | | 10/25/14 16:18 | 50 |
| 1,1,2-Trichloroethane | <6.5 | | 50 | 6.5 | ug/L | | | 10/25/14 16:18 | 50 |
| **Tetrachloroethene** | **74** | | 50 | 7.5 | ug/L | | | 10/25/14 16:18 | 50 |
| 2-Hexanone | <50 | | 500 | 50 | ug/L | | | 10/25/14 16:18 | 50 |
| Dibromochloromethane | <5.0 | | 50 | 5.0 | ug/L | | | 10/25/14 16:18 | 50 |
| 1,2-Dibromoethane | <13 | | 50 | 13 | ug/L | | | 10/25/14 16:18 | 50 |
| **Chlorobenzene** | **160** | | 50 | 13 | ug/L | | | 10/25/14 16:18 | 50 |
| **Ethylbenzene** | **1800** | | 50 | 5.5 | ug/L | | | 10/25/14 16:18 | 50 |
| **Xylenes, Total** | **4300** | | 100 | 10 | ug/L | | | 10/25/14 16:18 | 50 |

## Client Sample ID: MW-29

**Date Collected: 10/15/14 17:51**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-15**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <5.5 | | 50 | 5.5 | ug/L | | | 10/25/14 16:18 | 50 |
| Bromoform | <25 | | 50 | 25 | ug/L | | | 10/25/14 16:18 | 50 |
| **Isopropylbenzene** | **49** | **J** | 50 | 5.0 | ug/L | | | 10/25/14 16:18 | 50 |
| 1,1,2,2-Tetrachloroethane | <9.0 | | 50 | 9.0 | ug/L | | | 10/25/14 16:18 | 50 |
| **1,3-Dichlorobenzene** | **63** | | 50 | 13 | ug/L | | | 10/25/14 16:18 | 50 |
| **1,4-Dichlorobenzene** | **190** | | 50 | 14 | ug/L | | | 10/25/14 16:18 | 50 |
| **1,2-Dichlorobenzene** | **34** | **J** | 50 | 11 | ug/L | | | 10/25/14 16:18 | 50 |
| 1,2-Dibromo-3-Chloropropane | <22 | | 250 | 22 | ug/L | | | 10/25/14 16:18 | 50 |
| **1,2,4-Trichlorobenzene** | **110** | **J** | 250 | 13 | ug/L | | | 10/25/14 16:18 | 50 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *93* | | *70 - 130* | | *10/25/14 16:18* | *50* |
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *70 - 130* | | *10/25/14 16:18* | *50* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *10/25/14 16:18* | *50* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/25/14 16:18* | *50* |

### Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **360** | | 5.0 | 2.5 | mg/L | | | 10/29/14 13:31 | 10 |
| Nitrate as N | <0.050 | H | 0.10 | 0.050 | mg/L | | | 10/18/14 12:19 | 2 |
| **Nitrite as N** | **0.36** | **H** | 0.10 | 0.050 | mg/L | | | 10/18/14 12:19 | 2 |
| **Sulfate** | **1.8** | | 1.0 | 0.50 | mg/L | | | 10/28/14 20:07 | 2 |

### Method: 6010C - Metals (ICP) - Total Recoverable

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Iron** | **53000** | | 50 | 24 | ug/L | | 10/20/14 13:30 | 10/21/14 22:07 | 1 |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Sulfide | <10 | | 10 | 10 | mg/L | | 10/22/14 10:47 | 10/22/14 10:47 | 1 |
| **Total Organic Carbon** | **280** | | 4.0 | 2.0 | mg/L | | | 10/28/14 19:54 | 4 |

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Alkalinity** | **78** | | 5.0 | 5.0 | mg/L | | | 10/22/14 19:49 | 1 |

## Client Sample ID: MW-30

**Date Collected: 10/15/14 11:16**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-16**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 16:40 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/25/14 16:40 | 1 |
| **Vinyl chloride** | **1.2** | | 1.0 | 0.18 | ug/L | | | 10/25/14 16:40 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/25/14 16:40 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/25/14 16:40 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/25/14 16:40 | 1 |
| **Acetone** | **5.0** | **J** | 10 | 5.0 | ug/L | | | 10/25/14 16:40 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/25/14 16:40 | 1 |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: MW-30**
**Date Collected: 10/15/14 11:16**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-16**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/25/14 16:40 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/25/14 16:40 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/25/14 16:40 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 16:40 | 1 |
| **cis-1,2-Dichloroethene** | **2.3** | | 1.0 | 0.15 | ug/L | | | 10/25/14 16:40 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/25/14 16:40 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/25/14 16:40 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 16:40 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/25/14 16:40 | 1 |
| **Benzene** | **0.35** | **J** | 1.0 | 0.25 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/25/14 16:40 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/25/14 16:40 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/25/14 16:40 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 16:40 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/25/14 16:40 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/25/14 16:40 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/25/14 16:40 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/25/14 16:40 | 1 |
| **Tetrachloroethene** | **0.39** | **J** | 1.0 | 0.15 | ug/L | | | 10/25/14 16:40 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/25/14 16:40 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 16:40 | 1 |
| **Chlorobenzene** | **0.98** | **J** | 1.0 | 0.25 | ug/L | | | 10/25/14 16:40 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/25/14 16:40 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/25/14 16:40 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/25/14 16:40 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/25/14 16:40 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 16:40 | 1 |
| **1,4-Dichlorobenzene** | **0.39** | **J** | 1.0 | 0.28 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/25/14 16:40 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/25/14 16:40 | 1 |
| **1,2,4-Trichlorobenzene** | **0.41** | **J** | 5.0 | 0.25 | ug/L | | | 10/25/14 16:40 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *96* | | *70 - 130* | | *10/25/14 16:40* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *10/25/14 16:40* | *1* |
| *Dibromofluoromethane (Surr)* | *97* | | *70 - 130* | | *10/25/14 16:40* | *1* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* | | *10/25/14 16:40* | *1* |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: MW-31**
**Date Collected: 10/13/14 11:14**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-17**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:00 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 15:00 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 15:00 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 15:00 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 15:00 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:00 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 15:00 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/23/14 15:00 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/23/14 15:00 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/23/14 15:00 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/23/14 15:00 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:00 | 1 |
| **cis-1,2-Dichloroethene** | **0.43** | **J** | 1.0 | 0.15 | ug/L | | | 10/23/14 15:00 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 15:00 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:00 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:00 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:00 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:00 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 15:00 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 15:00 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:00 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 15:00 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 15:00 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 15:00 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 15:00 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 15:00 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 15:00 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:00 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:00 | 1 |
| **Ethylbenzene** | **0.33** | **J** | 1.0 | 0.11 | ug/L | | | 10/23/14 15:00 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/23/14 15:00 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 15:00 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:00 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 15:00 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/23/14 15:00 | 1 |
| **1,2,4-Trichlorobenzene** | **0.32** | **J** | 5.0 | 0.25 | ug/L | | | 10/23/14 15:00 | 1 |

## Client Sample ID: MW-31

**Lab Sample ID: 680-106392-17**

**Date Collected: 10/13/14 11:14**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* | | *10/23/14 15:00* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *70 - 130* | | *10/23/14 15:00* | *1* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* | | *10/23/14 15:00* | *1* |
| *4-Bromofluorobenzene (Surr)* | *105* | | *70 - 130* | | *10/23/14 15:00* | *1* |

## Client Sample ID: MW-32

**Lab Sample ID: 680-106392-18**

**Date Collected: 10/17/14 16:58**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <5.0 | | 20 | 5.0 | ug/L | | | 10/24/14 18:30 | 20 |
| Chloromethane | <6.6 | | 20 | 6.6 | ug/L | | | 10/24/14 18:30 | 20 |
| **Vinyl chloride** | **100** | | 20 | 3.6 | ug/L | | | 10/24/14 18:30 | 20 |
| Bromomethane | <40 | | 100 | 40 | ug/L | | | 10/24/14 18:30 | 20 |
| Chloroethane | <40 | | 100 | 40 | ug/L | | | 10/24/14 18:30 | 20 |
| Trichlorofluoromethane | <5.0 | | 20 | 5.0 | ug/L | | | 10/24/14 18:30 | 20 |
| **1,1-Dichloroethene** | **8.2** | **J** | 20 | 2.2 | ug/L | | | 10/24/14 18:30 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <10 | | 20 | 10 | ug/L | | | 10/24/14 18:30 | 20 |
| Acetone | <100 | | 200 | 100 | ug/L | | | 10/24/14 18:30 | 20 |
| Carbon disulfide | <12 | | 40 | 12 | ug/L | | | 10/24/14 18:30 | 20 |
| Methyl acetate | <3.8 | | 100 | 3.8 | ug/L | | | 10/24/14 18:30 | 20 |
| Methylene Chloride | <20 | | 100 | 20 | ug/L | | | 10/24/14 18:30 | 20 |
| **trans-1,2-Dichloroethene** | **9.0** | **J** | 20 | 4.0 | ug/L | | | 10/24/14 18:30 | 20 |
| Methyl tert-butyl ether | <4.0 | | 200 | 4.0 | ug/L | | | 10/24/14 18:30 | 20 |
| **1,1-Dichloroethane** | **6.3** | **J** | 20 | 5.0 | ug/L | | | 10/24/14 18:30 | 20 |
| **cis-1,2-Dichloroethene** | **1100** | | 20 | 3.0 | ug/L | | | 10/24/14 18:30 | 20 |
| 2-Butanone | <20 | | 200 | 20 | ug/L | | | 10/24/14 18:30 | 20 |
| **Chloroform** | **6.2** | **J** | 20 | 2.8 | ug/L | | | 10/24/14 18:30 | 20 |
| 1,1,1-Trichloroethane | <10 | | 20 | 10 | ug/L | | | 10/24/14 18:30 | 20 |
| Cyclohexane | <5.0 | | 20 | 5.0 | ug/L | | | 10/24/14 18:30 | 20 |
| Carbon tetrachloride | <10 | | 20 | 10 | ug/L | | | 10/24/14 18:30 | 20 |
| **Benzene** | **8.3** | **J** | 20 | 5.0 | ug/L | | | 10/24/14 18:30 | 20 |
| **1,2-Dichloroethane** | **5.7** | **J** | 20 | 2.0 | ug/L | | | 10/24/14 18:30 | 20 |
| **Trichloroethene** | **680** | | 20 | 2.6 | ug/L | | | 10/24/14 18:30 | 20 |
| Methylcyclohexane | <2.0 | | 20 | 2.0 | ug/L | | | 10/24/14 18:30 | 20 |
| **1,2-Dichloropropane** | **3.8** | **J** | 20 | 2.6 | ug/L | | | 10/24/14 18:30 | 20 |
| Bromodichloromethane | <5.0 | | 20 | 5.0 | ug/L | | | 10/24/14 18:30 | 20 |
| cis-1,3-Dichloropropene | <2.2 | | 20 | 2.2 | ug/L | | | 10/24/14 18:30 | 20 |
| 4-Methyl-2-pentanone | <20 | | 200 | 20 | ug/L | | | 10/24/14 18:30 | 20 |
| Toluene | <6.6 | | 20 | 6.6 | ug/L | | | 10/24/14 18:30 | 20 |
| trans-1,3-Dichloropropene | <4.2 | | 20 | 4.2 | ug/L | | | 10/24/14 18:30 | 20 |
| 1,1,2-Trichloroethane | <2.6 | | 20 | 2.6 | ug/L | | | 10/24/14 18:30 | 20 |
| **Tetrachloroethene** | **1900** | | 20 | 3.0 | ug/L | | | 10/24/14 18:30 | 20 |
| 2-Hexanone | <20 | | 200 | 20 | ug/L | | | 10/24/14 18:30 | 20 |
| Dibromochloromethane | <2.0 | | 20 | 2.0 | ug/L | | | 10/24/14 18:30 | 20 |
| 1,2-Dibromoethane | <5.0 | | 20 | 5.0 | ug/L | | | 10/24/14 18:30 | 20 |
| **Chlorobenzene** | **40** | | 20 | 5.0 | ug/L | | | 10/24/14 18:30 | 20 |
| **Ethylbenzene** | **36** | | 20 | 2.2 | ug/L | | | 10/24/14 18:30 | 20 |
| **Xylenes, Total** | **29** | **J** | 40 | 4.0 | ug/L | | | 10/24/14 18:30 | 20 |

## Client Sample ID: MW-32

**Date Collected: 10/17/14 16:58**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-18**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <2.2 | | 20 | 2.2 | ug/L | | | 10/24/14 18:30 | 20 |
| Bromoform | <10 | | 20 | 10 | ug/L | | | 10/24/14 18:30 | 20 |
| **Isopropylbenzene** | **6.7** | **J** | 20 | 2.0 | ug/L | | | 10/24/14 18:30 | 20 |
| 1,1,2,2-Tetrachloroethane | <3.6 | | 20 | 3.6 | ug/L | | | 10/24/14 18:30 | 20 |
| **1,3-Dichlorobenzene** | **20** | | 20 | 5.0 | ug/L | | | 10/24/14 18:30 | 20 |
| **1,4-Dichlorobenzene** | **41** | | 20 | 5.6 | ug/L | | | 10/24/14 18:30 | 20 |
| **1,2-Dichlorobenzene** | **5.5** | **J** | 20 | 4.2 | ug/L | | | 10/24/14 18:30 | 20 |
| 1,2-Dibromo-3-Chloropropane | <8.8 | | 100 | 8.8 | ug/L | | | 10/24/14 18:30 | 20 |
| **1,2,4-Trichlorobenzene** | **85** | **J** | 100 | 5.0 | ug/L | | | 10/24/14 18:30 | 20 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *10/24/14 18:30* | *20* |
| *1,2-Dichloroethane-d4 (Surr)* | *109* | | *70 - 130* | | *10/24/14 18:30* | *20* |
| *Dibromofluoromethane (Surr)* | *109* | | *70 - 130* | | *10/24/14 18:30* | *20* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* | | *10/24/14 18:30* | *20* |

### Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **190** | | 2.5 | 1.3 | mg/L | | | 10/29/14 13:46 | 5 |
| **Nitrate as N** | **4.1** | | 0.25 | 0.13 | mg/L | | | 10/18/14 15:09 | 5 |
| **Nitrite as N** | **0.22** | | 0.050 | 0.025 | mg/L | | | 10/18/14 11:48 | 1 |
| **Sulfate** | **120** | | 2.5 | 1.3 | mg/L | | | 10/29/14 13:46 | 5 |

### Method: 6010C - Metals (ICP) - Total Recoverable

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Iron** | **6500** | | 50 | 24 | ug/L | | 10/20/14 13:30 | 10/21/14 22:11 | 1 |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Sulfide | <10 | | 10 | 10 | mg/L | | 10/22/14 10:47 | 10/22/14 10:47 | 1 |
| **Total Organic Carbon** | **10** | | 1.0 | 0.50 | mg/L | | | 10/28/14 17:36 | 1 |

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Alkalinity** | **89** | | 5.0 | 5.0 | mg/L | | | 10/23/14 20:19 | 1 |

## Client Sample ID: MW-33

**Date Collected: 10/14/14 17:02**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-19**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 18:50 | 5 |
| Chloromethane | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/24/14 18:50 | 5 |
| **Vinyl chloride** | **440** | | 5.0 | 0.90 | ug/L | | | 10/24/14 18:50 | 5 |
| Bromomethane | <10 | | 25 | 10 | ug/L | | | 10/24/14 18:50 | 5 |
| Chloroethane | <10 | | 25 | 10 | ug/L | | | 10/24/14 18:50 | 5 |
| Trichlorofluoromethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 18:50 | 5 |
| **1,1-Dichloroethene** | **3.4** | **J** | 5.0 | 0.55 | ug/L | | | 10/24/14 18:50 | 5 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/24/14 18:50 | 5 |
| Acetone | <25 | | 50 | 25 | ug/L | | | 10/24/14 18:50 | 5 |
| Carbon disulfide | <3.0 | | 10 | 3.0 | ug/L | | | 10/24/14 18:50 | 5 |

**Client Sample ID: MW-33**
**Date Collected: 10/14/14 17:02**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-19**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Methyl acetate | <0.95 | | 25 | 0.95 | ug/L | | | 10/24/14 18:50 | 5 |
| Methylene Chloride | <5.0 | | 25 | 5.0 | ug/L | | | 10/24/14 18:50 | 5 |
| **trans-1,2-Dichloroethene** | **5.9** | | 5.0 | 1.0 | ug/L | | | 10/24/14 18:50 | 5 |
| Methyl tert-butyl ether | <1.0 | | 50 | 1.0 | ug/L | | | 10/24/14 18:50 | 5 |
| **1,1-Dichloroethane** | **1.9** | **J** | 5.0 | 1.3 | ug/L | | | 10/24/14 18:50 | 5 |
| **cis-1,2-Dichloroethene** | **390** | | 5.0 | 0.75 | ug/L | | | 10/24/14 18:50 | 5 |
| 2-Butanone | <5.0 | | 50 | 5.0 | ug/L | | | 10/24/14 18:50 | 5 |
| **Chloroform** | **3.1** | **J** | 5.0 | 0.70 | ug/L | | | 10/24/14 18:50 | 5 |
| 1,1,1-Trichloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/24/14 18:50 | 5 |
| Cyclohexane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 18:50 | 5 |
| Carbon tetrachloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/24/14 18:50 | 5 |
| Benzene | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 18:50 | 5 |
| 1,2-Dichloroethane | <0.50 | | 5.0 | 0.50 | ug/L | | | 10/24/14 18:50 | 5 |
| **Trichloroethene** | **9.7** | | 5.0 | 0.65 | ug/L | | | 10/24/14 18:50 | 5 |
| Methylcyclohexane | <0.50 | | 5.0 | 0.50 | ug/L | | | 10/24/14 18:50 | 5 |
| **1,2-Dichloropropane** | **1.2** | **J** | 5.0 | 0.65 | ug/L | | | 10/24/14 18:50 | 5 |
| Bromodichloromethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 18:50 | 5 |
| cis-1,3-Dichloropropene | <0.55 | | 5.0 | 0.55 | ug/L | | | 10/24/14 18:50 | 5 |
| 4-Methyl-2-pentanone | <5.0 | | 50 | 5.0 | ug/L | | | 10/24/14 18:50 | 5 |
| **Toluene** | **3.5** | **J** | 5.0 | 1.7 | ug/L | | | 10/24/14 18:50 | 5 |
| trans-1,3-Dichloropropene | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/24/14 18:50 | 5 |
| 1,1,2-Trichloroethane | <0.65 | | 5.0 | 0.65 | ug/L | | | 10/24/14 18:50 | 5 |
| **Tetrachloroethene** | **1.2** | **J** | 5.0 | 0.75 | ug/L | | | 10/24/14 18:50 | 5 |
| 2-Hexanone | <5.0 | | 50 | 5.0 | ug/L | | | 10/24/14 18:50 | 5 |
| Dibromochloromethane | <0.50 | | 5.0 | 0.50 | ug/L | | | 10/24/14 18:50 | 5 |
| 1,2-Dibromoethane | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/24/14 18:50 | 5 |
| **Chlorobenzene** | **90** | | 5.0 | 1.3 | ug/L | | | 10/24/14 18:50 | 5 |
| **Ethylbenzene** | **9.4** | | 5.0 | 0.55 | ug/L | | | 10/24/14 18:50 | 5 |
| **Xylenes, Total** | **37** | | 10 | 1.0 | ug/L | | | 10/24/14 18:50 | 5 |
| Styrene | <0.55 | | 5.0 | 0.55 | ug/L | | | 10/24/14 18:50 | 5 |
| Bromoform | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/24/14 18:50 | 5 |
| Isopropylbenzene | <0.50 | | 5.0 | 0.50 | ug/L | | | 10/24/14 18:50 | 5 |
| 1,1,2,2-Tetrachloroethane | <0.90 | | 5.0 | 0.90 | ug/L | | | 10/24/14 18:50 | 5 |
| **1,3-Dichlorobenzene** | **32** | | 5.0 | 1.3 | ug/L | | | 10/24/14 18:50 | 5 |
| **1,4-Dichlorobenzene** | **160** | | 5.0 | 1.4 | ug/L | | | 10/24/14 18:50 | 5 |
| **1,2-Dichlorobenzene** | **12** | | 5.0 | 1.1 | ug/L | | | 10/24/14 18:50 | 5 |
| 1,2-Dibromo-3-Chloropropane | <2.2 | | 25 | 2.2 | ug/L | | | 10/24/14 18:50 | 5 |
| **1,2,4-Trichlorobenzene** | **15** | **J** | 25 | 1.3 | ug/L | | | 10/24/14 18:50 | 5 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* | | *10/24/14 18:50* | *5* |
| *1,2-Dichloroethane-d4 (Surr)* | *114* | | *70 - 130* | | *10/24/14 18:50* | *5* |
| *Dibromofluoromethane (Surr)* | *113* | | *70 - 130* | | *10/24/14 18:50* | *5* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | | *10/24/14 18:50* | *5* |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: MW-34**
**Date Collected: 10/16/14 12:39**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-20**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:20 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 15:20 | 1 |
| **Vinyl chloride** | **1.8** | | 1.0 | 0.18 | ug/L | | | 10/23/14 15:20 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 15:20 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 15:20 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:20 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 15:20 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/23/14 15:20 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/23/14 15:20 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/23/14 15:20 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/23/14 15:20 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:20 | 1 |
| **cis-1,2-Dichloroethene** | **5.1** | | 1.0 | 0.15 | ug/L | | | 10/23/14 15:20 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 15:20 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:20 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:20 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:20 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:20 | 1 |
| **Trichloroethene** | **0.23** | **J** | 1.0 | 0.13 | ug/L | | | 10/23/14 15:20 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 15:20 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:20 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 15:20 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 15:20 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 15:20 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 15:20 | 1 |
| **Tetrachloroethene** | **1.1** | | 1.0 | 0.15 | ug/L | | | 10/23/14 15:20 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 15:20 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:20 | 1 |
| **Chlorobenzene** | **1.4** | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:20 | 1 |
| **Ethylbenzene** | **0.17** | **J** | 1.0 | 0.11 | ug/L | | | 10/23/14 15:20 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/23/14 15:20 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 15:20 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:20 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 15:20 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/23/14 15:20 | 1 |
| **1,2,4-Trichlorobenzene** | **0.78** | **J** | 5.0 | 0.25 | ug/L | | | 10/23/14 15:20 | 1 |

**Client Sample ID: MW-34** — **Lab Sample ID: 680-106392-20**
**Date Collected: 10/16/14 12:39** — **Matrix: Water**
**Date Received: 10/18/14 07:50**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* | | *10/23/14 15:20* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *70 - 130* | | *10/23/14 15:20* | *1* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* | | *10/23/14 15:20* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *10/23/14 15:20* | *1* |

**Client Sample ID: MW-35** — **Lab Sample ID: 680-106392-21**
**Date Collected: 10/16/14 16:24** — **Matrix: Water**
**Date Received: 10/18/14 07:50**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:40 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 15:40 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 15:40 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 15:40 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 15:40 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:40 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 15:40 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/23/14 15:40 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/23/14 15:40 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/23/14 15:40 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/23/14 15:40 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:40 | 1 |
| **cis-1,2-Dichloroethene** | **0.16** | **J** | 1.0 | 0.15 | ug/L | | | 10/23/14 15:40 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 15:40 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:40 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:40 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:40 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:40 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 15:40 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 15:40 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:40 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 15:40 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 15:40 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 15:40 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 15:40 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 15:40 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 15:40 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:40 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:40 | 1 |
| **Ethylbenzene** | **0.11** | **J** | 1.0 | 0.11 | ug/L | | | 10/23/14 15:40 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/23/14 15:40 | 1 |

**Client Sample ID: MW-35**
**Date Collected: 10/16/14 16:24**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-21**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 15:40 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 15:40 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/23/14 15:40 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/23/14 15:40 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* | | *10/23/14 15:40* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* | | *10/23/14 15:40* | *1* |
| *Dibromofluoromethane (Surr)* | *102* | | *70 - 130* | | *10/23/14 15:40* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/23/14 15:40* | *1* |

**Client Sample ID: MW-36**
**Date Collected: 10/17/14 16:08**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-22**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:00 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 16:00 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 16:00 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 16:00 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 16:00 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 16:00 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 16:00 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/23/14 16:00 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/23/14 16:00 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/23/14 16:00 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/23/14 16:00 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:00 | 1 |
| **cis-1,2-Dichloroethene** | **0.60** | **J** | 1.0 | 0.15 | ug/L | | | 10/23/14 16:00 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 16:00 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 16:00 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:00 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 16:00 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 16:00 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 16:00 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 16:00 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:00 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 16:00 | 1 |

## Client Sample ID: MW-36

**Date Collected: 10/17/14 16:08**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-22**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 16:00 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 16:00 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 16:00 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 16:00 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 16:00 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:00 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:00 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 16:00 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/23/14 16:00 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 16:00 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 16:00 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/23/14 16:00 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/23/14 16:00 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *97* | | *70 - 130* | | *10/23/14 16:00* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* | | *10/23/14 16:00* | *1* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* | | *10/23/14 16:00* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *10/23/14 16:00* | *1* |

## Client Sample ID: MW-37

**Date Collected: 10/16/14 13:46**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-23**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.50 | | 2.0 | 0.50 | ug/L | | | 10/24/14 19:10 | 2 |
| Chloromethane | <0.66 | | 2.0 | 0.66 | ug/L | | | 10/24/14 19:10 | 2 |
| **Vinyl chloride** | **93** | | 2.0 | 0.36 | ug/L | | | 10/24/14 19:10 | 2 |
| Bromomethane | <4.0 | | 10 | 4.0 | ug/L | | | 10/24/14 19:10 | 2 |
| Chloroethane | <4.0 | | 10 | 4.0 | ug/L | | | 10/24/14 19:10 | 2 |
| Trichlorofluoromethane | <0.50 | | 2.0 | 0.50 | ug/L | | | 10/24/14 19:10 | 2 |
| **1,1-Dichloroethene** | **3.2** | | 2.0 | 0.22 | ug/L | | | 10/24/14 19:10 | 2 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/24/14 19:10 | 2 |
| **Acetone** | **14** | **J** | 20 | 10 | ug/L | | | 10/24/14 19:10 | 2 |
| Carbon disulfide | <1.2 | | 4.0 | 1.2 | ug/L | | | 10/24/14 19:10 | 2 |
| Methyl acetate | <0.38 | | 10 | 0.38 | ug/L | | | 10/24/14 19:10 | 2 |
| Methylene Chloride | <2.0 | | 10 | 2.0 | ug/L | | | 10/24/14 19:10 | 2 |
| **trans-1,2-Dichloroethene** | **1.6** | **J** | 2.0 | 0.40 | ug/L | | | 10/24/14 19:10 | 2 |
| **Methyl tert-butyl ether** | **0.72** | **J** | 20 | 0.40 | ug/L | | | 10/24/14 19:10 | 2 |
| **1,1-Dichloroethane** | **1.2** | **J** | 2.0 | 0.50 | ug/L | | | 10/24/14 19:10 | 2 |
| **cis-1,2-Dichloroethene** | **370** | | 2.0 | 0.30 | ug/L | | | 10/24/14 19:10 | 2 |
| 2-Butanone | <2.0 | | 20 | 2.0 | ug/L | | | 10/24/14 19:10 | 2 |

## Client Sample ID: MW-37

**Date Collected: 10/16/14 13:46**
**Date Received: 10/18/14 07:50**

## Lab Sample ID: 680-106392-23

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloroform** | **0.59** | **J** | 2.0 | 0.28 | ug/L | | | 10/24/14 19:10 | 2 |
| 1,1,1-Trichloroethane | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/24/14 19:10 | 2 |
| Cyclohexane | <0.50 | | 2.0 | 0.50 | ug/L | | | 10/24/14 19:10 | 2 |
| Carbon tetrachloride | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/24/14 19:10 | 2 |
| **Benzene** | **10** | | 2.0 | 0.50 | ug/L | | | 10/24/14 19:10 | 2 |
| **1,2-Dichloroethane** | **0.68** | **J** | 2.0 | 0.20 | ug/L | | | 10/24/14 19:10 | 2 |
| **Trichloroethene** | **12** | | 2.0 | 0.26 | ug/L | | | 10/24/14 19:10 | 2 |
| **Methylcyclohexane** | **0.42** | **J** | 2.0 | 0.20 | ug/L | | | 10/24/14 19:10 | 2 |
| **1,2-Dichloropropane** | **0.31** | **J** | 2.0 | 0.26 | ug/L | | | 10/24/14 19:10 | 2 |
| Bromodichloromethane | <0.50 | | 2.0 | 0.50 | ug/L | | | 10/24/14 19:10 | 2 |
| cis-1,3-Dichloropropene | <0.22 | | 2.0 | 0.22 | ug/L | | | 10/24/14 19:10 | 2 |
| 4-Methyl-2-pentanone | <2.0 | | 20 | 2.0 | ug/L | | | 10/24/14 19:10 | 2 |
| **Toluene** | **0.91** | **J** | 2.0 | 0.66 | ug/L | | | 10/24/14 19:10 | 2 |
| trans-1,3-Dichloropropene | <0.42 | | 2.0 | 0.42 | ug/L | | | 10/24/14 19:10 | 2 |
| 1,1,2-Trichloroethane | <0.26 | | 2.0 | 0.26 | ug/L | | | 10/24/14 19:10 | 2 |
| **Tetrachloroethene** | **36** | | 2.0 | 0.30 | ug/L | | | 10/24/14 19:10 | 2 |
| 2-Hexanone | <2.0 | | 20 | 2.0 | ug/L | | | 10/24/14 19:10 | 2 |
| Dibromochloromethane | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/24/14 19:10 | 2 |
| 1,2-Dibromoethane | <0.50 | | 2.0 | 0.50 | ug/L | | | 10/24/14 19:10 | 2 |
| **Chlorobenzene** | **79** | | 2.0 | 0.50 | ug/L | | | 10/24/14 19:10 | 2 |
| **Ethylbenzene** | **0.83** | **J** | 2.0 | 0.22 | ug/L | | | 10/24/14 19:10 | 2 |
| **Xylenes, Total** | **2.4** | **J** | 4.0 | 0.40 | ug/L | | | 10/24/14 19:10 | 2 |
| Styrene | <0.22 | | 2.0 | 0.22 | ug/L | | | 10/24/14 19:10 | 2 |
| Bromoform | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/24/14 19:10 | 2 |
| **Isopropylbenzene** | **1.1** | **J** | 2.0 | 0.20 | ug/L | | | 10/24/14 19:10 | 2 |
| 1,1,2,2-Tetrachloroethane | <0.36 | | 2.0 | 0.36 | ug/L | | | 10/24/14 19:10 | 2 |
| **1,3-Dichlorobenzene** | **7.2** | | 2.0 | 0.50 | ug/L | | | 10/24/14 19:10 | 2 |
| **1,4-Dichlorobenzene** | **47** | | 2.0 | 0.56 | ug/L | | | 10/24/14 19:10 | 2 |
| **1,2-Dichlorobenzene** | **12** | | 2.0 | 0.42 | ug/L | | | 10/24/14 19:10 | 2 |
| 1,2-Dibromo-3-Chloropropane | <0.88 | | 10 | 0.88 | ug/L | | | 10/24/14 19:10 | 2 |
| **1,2,4-Trichlorobenzene** | **70** | | 10 | 0.50 | ug/L | | | 10/24/14 19:10 | 2 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* | | *10/24/14 19:10* | *2* |
| *1,2-Dichloroethane-d4 (Surr)* | *128* | | *70 - 130* | | *10/24/14 19:10* | *2* |
| *Dibromofluoromethane (Surr)* | *121* | | *70 - 130* | | *10/24/14 19:10* | *2* |
| *4-Bromofluorobenzene (Surr)* | *96* | | *70 - 130* | | *10/24/14 19:10* | *2* |

## Client Sample ID: PAN-MW-9

**Date Collected: 10/15/14 14:17**
**Date Received: 10/18/14 07:50**

## Lab Sample ID: 680-106392-24

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <2.5 | | 10 | 2.5 | ug/L | | | 10/23/14 18:02 | 10 |
| Chloromethane | <3.3 | | 10 | 3.3 | ug/L | | | 10/23/14 18:02 | 10 |
| **Vinyl chloride** | **130** | | 10 | 1.8 | ug/L | | | 10/23/14 18:02 | 10 |
| Bromomethane | <20 | | 50 | 20 | ug/L | | | 10/23/14 18:02 | 10 |
| Chloroethane | <20 | | 50 | 20 | ug/L | | | 10/23/14 18:02 | 10 |
| Trichlorofluoromethane | <2.5 | | 10 | 2.5 | ug/L | | | 10/23/14 18:02 | 10 |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: PAN-MW-9**
**Date Collected: 10/15/14 14:17**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-24**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **1,1-Dichloroethene** | **5.0** | **J** | 10 | 1.1 | ug/L | | | 10/23/14 18:02 | 10 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 18:02 | 10 |
| Acetone | <50 | | 100 | 50 | ug/L | | | 10/23/14 18:02 | 10 |
| Carbon disulfide | <6.0 | | 20 | 6.0 | ug/L | | | 10/23/14 18:02 | 10 |
| Methyl acetate | <1.9 | | 50 | 1.9 | ug/L | | | 10/23/14 18:02 | 10 |
| Methylene Chloride | <10 | | 50 | 10 | ug/L | | | 10/23/14 18:02 | 10 |
| **trans-1,2-Dichloroethene** | **5.4** | **J** | 10 | 2.0 | ug/L | | | 10/23/14 18:02 | 10 |
| Methyl tert-butyl ether | <2.0 | | 100 | 2.0 | ug/L | | | 10/23/14 18:02 | 10 |
| 1,1-Dichloroethane | <2.5 | | 10 | 2.5 | ug/L | | | 10/23/14 18:02 | 10 |
| **cis-1,2-Dichloroethene** | **1900** | | 10 | 1.5 | ug/L | | | 10/23/14 18:02 | 10 |
| 2-Butanone | <10 | | 100 | 10 | ug/L | | | 10/23/14 18:02 | 10 |
| Chloroform | <1.4 | | 10 | 1.4 | ug/L | | | 10/23/14 18:02 | 10 |
| 1,1,1-Trichloroethane | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 18:02 | 10 |
| Cyclohexane | <2.5 | | 10 | 2.5 | ug/L | | | 10/23/14 18:02 | 10 |
| Carbon tetrachloride | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 18:02 | 10 |
| **Benzene** | **4.4** | **J** | 10 | 2.5 | ug/L | | | 10/23/14 18:02 | 10 |
| 1,2-Dichloroethane | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 18:02 | 10 |
| **Trichloroethene** | **35** | | 10 | 1.3 | ug/L | | | 10/23/14 18:02 | 10 |
| Methylcyclohexane | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 18:02 | 10 |
| 1,2-Dichloropropane | <1.3 | | 10 | 1.3 | ug/L | | | 10/23/14 18:02 | 10 |
| Bromodichloromethane | <2.5 | | 10 | 2.5 | ug/L | | | 10/23/14 18:02 | 10 |
| cis-1,3-Dichloropropene | <1.1 | | 10 | 1.1 | ug/L | | | 10/23/14 18:02 | 10 |
| 4-Methyl-2-pentanone | <10 | | 100 | 10 | ug/L | | | 10/23/14 18:02 | 10 |
| Toluene | <3.3 | | 10 | 3.3 | ug/L | | | 10/23/14 18:02 | 10 |
| trans-1,3-Dichloropropene | <2.1 | | 10 | 2.1 | ug/L | | | 10/23/14 18:02 | 10 |
| 1,1,2-Trichloroethane | <1.3 | | 10 | 1.3 | ug/L | | | 10/23/14 18:02 | 10 |
| **Tetrachloroethene** | **17** | | 10 | 1.5 | ug/L | | | 10/23/14 18:02 | 10 |
| 2-Hexanone | <10 | | 100 | 10 | ug/L | | | 10/23/14 18:02 | 10 |
| Dibromochloromethane | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 18:02 | 10 |
| 1,2-Dibromoethane | <2.5 | | 10 | 2.5 | ug/L | | | 10/23/14 18:02 | 10 |
| **Chlorobenzene** | **26** | | 10 | 2.5 | ug/L | | | 10/23/14 18:02 | 10 |
| **Ethylbenzene** | **650** | | 10 | 1.1 | ug/L | | | 10/23/14 18:02 | 10 |
| **Xylenes, Total** | **1800** | | 20 | 2.0 | ug/L | | | 10/23/14 18:02 | 10 |
| Styrene | <1.1 | | 10 | 1.1 | ug/L | | | 10/23/14 18:02 | 10 |
| Bromoform | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 18:02 | 10 |
| **Isopropylbenzene** | **29** | | 10 | 1.0 | ug/L | | | 10/23/14 18:02 | 10 |
| 1,1,2,2-Tetrachloroethane | <1.8 | | 10 | 1.8 | ug/L | | | 10/23/14 18:02 | 10 |
| **1,3-Dichlorobenzene** | **8.6** | **J** | 10 | 2.5 | ug/L | | | 10/23/14 18:02 | 10 |
| **1,4-Dichlorobenzene** | **24** | | 10 | 2.8 | ug/L | | | 10/23/14 18:02 | 10 |
| **1,2-Dichlorobenzene** | **4.9** | **J** | 10 | 2.1 | ug/L | | | 10/23/14 18:02 | 10 |
| 1,2-Dibromo-3-Chloropropane | <4.4 | | 50 | 4.4 | ug/L | | | 10/23/14 18:02 | 10 |
| **1,2,4-Trichlorobenzene** | **12** | **J** | 50 | 2.5 | ug/L | | | 10/23/14 18:02 | 10 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *96* | | *70 - 130* | | *10/23/14 18:02* | *10* |
| *1,2-Dichloroethane-d4 (Surr)* | *109* | | *70 - 130* | | *10/23/14 18:02* | *10* |
| *Dibromofluoromethane (Surr)* | *111* | | *70 - 130* | | *10/23/14 18:02* | *10* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/23/14 18:02* | *10* |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: PAN-MW-10**
**Date Collected: 10/15/14 10:00**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-25**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:41 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 16:41 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 16:41 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 16:41 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 16:41 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 16:41 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 16:41 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/23/14 16:41 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/23/14 16:41 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/23/14 16:41 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/23/14 16:41 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:41 | 1 |
| **cis-1,2-Dichloroethene** | **0.34** | **J** | 1.0 | 0.15 | ug/L | | | 10/23/14 16:41 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 16:41 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 16:41 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:41 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 16:41 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 16:41 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 16:41 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 16:41 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:41 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 16:41 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 16:41 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 16:41 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 16:41 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 16:41 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 16:41 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:41 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:41 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 16:41 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/23/14 16:41 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 16:41 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 16:41 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 16:41 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/23/14 16:41 | 1 |
| **1,2,4-Trichlorobenzene** | **2.2** | **J** | 5.0 | 0.25 | ug/L | | | 10/23/14 16:41 | 1 |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

## Client Sample ID: PAN-MW-10

**Lab Sample ID: 680-106392-25**

**Date Collected: 10/15/14 10:00**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *97* | | *70 - 130* | | *10/23/14 16:41* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *70 - 130* | | *10/23/14 16:41* | *1* |
| *Dibromofluoromethane (Surr)* | *110* | | *70 - 130* | | *10/23/14 16:41* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *10/23/14 16:41* | *1* |

## Client Sample ID: Trip Blank

**Lab Sample ID: 680-106392-26**

**Date Collected: 10/17/14 00:00**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:39 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 12:39 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 12:39 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 12:39 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 12:39 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 12:39 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 12:39 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/23/14 12:39 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/23/14 12:39 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/23/14 12:39 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/23/14 12:39 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:39 | 1 |
| cis-1,2-Dichloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 12:39 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 12:39 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 12:39 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:39 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 12:39 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 12:39 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 12:39 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 12:39 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:39 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 12:39 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 12:39 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 12:39 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 12:39 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 12:39 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 12:39 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:39 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:39 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 12:39 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/23/14 12:39 | 1 |

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

**Client Sample ID: Trip Blank**
**Date Collected: 10/17/14 00:00**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-26**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 12:39 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 12:39 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/23/14 12:39 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/23/14 12:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* | | *10/23/14 12:39* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* | | *10/23/14 12:39* | *1* |
| *Dibromofluoromethane (Surr)* | *101* | | *70 - 130* | | *10/23/14 12:39* | *1* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | | *10/23/14 12:39* | *1* |

# Surrogate Summary

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Water**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | TOL | 12DCE | DBFM | BFB |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | (70-130) | (70-130) |
| 680-106392-1 | IW-1R | 89 | 94 | 99 | 92 |
| 680-106392-2 | IW-18 | 88 | 95 | 99 | 90 |
| 680-106392-3 | LAW-PZ-8R | 87 | 95 | 98 | 92 |
| 680-106392-4 | MW-14 | 98 | 96 | 102 | 99 |
| 680-106392-5 | MW-16 | 91 | 85 | 95 | 91 |
| 680-106392-6 | MW-17R | 82 | 88 | 94 | 97 |
| 680-106392-7 | MW-18R | 93 | 85 | 93 | 90 |
| 680-106392-8 | MW-19 | 93 | 87 | 91 | 90 |
| 680-106392-9 | MW-24R | 87 | 101 | 103 | 90 |
| 680-106392-10 | MW-23 | 92 | 87 | 93 | 89 |
| 680-106392-11 | MW-25 | 98 | 96 | 103 | 103 |
| 680-106392-12 | MW-26R | 99 | 108 | 111 | 100 |
| 680-106392-13 | MW-27 | 99 | 99 | 103 | 102 |
| 680-106392-14 | MW-28 | 98 | 97 | 103 | 100 |
| 680-106392-15 | MW-29 | 93 | 97 | 98 | 98 |
| 680-106392-16 | MW-30 | 96 | 93 | 97 | 97 |
| 680-106392-17 | MW-31 | 99 | 98 | 104 | 105 |
| 680-106392-18 | MW-32 | 101 | 109 | 109 | 97 |
| 680-106392-19 | MW-33 | 98 | 114 | 113 | 93 |
| 680-106392-20 | MW-34 | 98 | 98 | 104 | 100 |
| 680-106392-21 | MW-35 | 100 | 96 | 102 | 98 |
| 680-106392-22 | MW-36 | 97 | 96 | 104 | 99 |
| 680-106392-23 | MW-37 | 99 | 128 | 121 | 96 |
| 680-106392-24 | PAN-MW-9 | 96 | 109 | 111 | 98 |
| 680-106392-25 | PAN-MW-10 | 97 | 103 | 110 | 99 |
| 680-106392-26 | Trip Blank | 98 | 95 | 101 | 102 |
| LCS 680-354720/3 | Lab Control Sample | 96 | 108 | 110 | 93 |
| LCS 680-354918/4 | Lab Control Sample | 101 | 108 | 109 | 102 |
| LCS 680-355130/5 | Lab Control Sample | 102 | 108 | 112 | 101 |
| LCS 680-355315/4 | Lab Control Sample | 99 | 95 | 96 | 105 |
| LCSD 680-354720/4 | Lab Control Sample Dup | 99 | 107 | 110 | 93 |
| LCSD 680-354918/5 | Lab Control Sample Dup | 100 | 103 | 106 | 100 |
| LCSD 680-355130/6 | Lab Control Sample Dup | 102 | 108 | 111 | 100 |
| LCSD 680-355315/5 | Lab Control Sample Dup | 90 | 84 | 87 | 95 |
| MB 680-354720/8 | Method Blank | 94 | 86 | 94 | 92 |
| MB 680-354918/9 | Method Blank | 98 | 97 | 103 | 98 |
| MB 680-355130/9 | Method Blank | 98 | 104 | 105 | 98 |
| MB 680-355315/9 | Method Blank | 97 | 96 | 97 | 98 |

**Surrogate Legend**

TOL = Toluene-d8 (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 680-354720/8**
**Matrix: Water**
**Analysis Batch: 354720**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 09:59 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 09:59 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/22/14 09:59 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 09:59 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/22/14 09:59 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 09:59 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/22/14 09:59 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/22/14 09:59 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/22/14 09:59 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/22/14 09:59 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/22/14 09:59 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 09:59 | 1 |
| cis-1,2-Dichloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/22/14 09:59 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 09:59 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 09:59 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 09:59 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 09:59 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 09:59 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 09:59 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 09:59 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 09:59 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 09:59 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 09:59 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/22/14 09:59 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/22/14 09:59 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/22/14 09:59 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/22/14 09:59 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 09:59 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 09:59 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 09:59 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/22/14 09:59 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/22/14 09:59 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/22/14 09:59 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/22/14 09:59 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/22/14 09:59 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-354720/8**
**Matrix: Water**
**Analysis Batch: 354720**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *94* | | *70 - 130* | | *10/22/14 09:59* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *86* | | *70 - 130* | | *10/22/14 09:59* | *1* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* | | *10/22/14 09:59* | *1* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *70 - 130* | | *10/22/14 09:59* | *1* |

**Lab Sample ID: LCS 680-354720/3**
**Matrix: Water**
**Analysis Batch: 354720**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 47.3 | | ug/L | | 95 | 41 - 165 |
| Chloromethane | 50.0 | 41.0 | | ug/L | | 82 | 47 - 151 |
| Vinyl chloride | 50.0 | 50.1 | | ug/L | | 100 | 58 - 141 |
| Bromomethane | 50.0 | 79.1 | | ug/L | | 158 | 10 - 171 |
| Chloroethane | 50.0 | 57.2 | | ug/L | | 114 | 47 - 148 |
| Trichlorofluoromethane | 50.0 | 46.4 | | ug/L | | 93 | 66 - 144 |
| 1,1-Dichloroethene | 50.0 | 46.9 | | ug/L | | 94 | 73 - 134 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 46.2 | | ug/L | | 92 | 72 - 139 |
| Acetone | 250 | 269 | | ug/L | | 107 | 39 - 162 |
| Carbon disulfide | 50.0 | 46.1 | | ug/L | | 92 | 63 - 142 |
| Methyl acetate | 250 | 244 | | ug/L | | 98 | 26 - 182 |
| Methylene Chloride | 50.0 | 52.6 | | ug/L | | 105 | 79 - 124 |
| trans-1,2-Dichloroethene | 50.0 | 49.4 | | ug/L | | 99 | 78 - 130 |
| Methyl tert-butyl ether | 50.0 | 52.7 | | ug/L | | 105 | 76 - 126 |
| 1,1-Dichloroethane | 50.0 | 52.8 | | ug/L | | 106 | 69 - 132 |
| cis-1,2-Dichloroethene | 50.0 | 55.8 | | ug/L | | 112 | 78 - 127 |
| 2-Butanone | 250 | 257 | | ug/L | | 103 | 55 - 142 |
| Chloroform | 50.0 | 54.2 | | ug/L | | 108 | 76 - 128 |
| 1,1,1-Trichloroethane | 50.0 | 50.5 | | ug/L | | 101 | 76 - 126 |
| Cyclohexane | 50.0 | 48.2 | | ug/L | | 96 | 68 - 137 |
| Carbon tetrachloride | 50.0 | 48.9 | | ug/L | | 98 | 70 - 131 |
| Benzene | 50.0 | 53.1 | | ug/L | | 106 | 74 - 123 |
| 1,2-Dichloroethane | 50.0 | 56.2 | | ug/L | | 112 | 75 - 120 |
| Trichloroethene | 50.0 | 51.5 | | ug/L | | 103 | 80 - 120 |
| Methylcyclohexane | 50.0 | 52.7 | | ug/L | | 105 | 72 - 133 |
| 1,2-Dichloropropane | 50.0 | 55.0 | | ug/L | | 110 | 71 - 126 |
| Bromodichloromethane | 50.0 | 56.9 | | ug/L | | 114 | 72 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 61.2 | | ug/L | | 122 | 73 - 128 |
| 4-Methyl-2-pentanone | 250 | 267 | | ug/L | | 107 | 51 - 143 |
| Toluene | 50.0 | 54.4 | | ug/L | | 109 | 77 - 125 |
| trans-1,3-Dichloropropene | 50.0 | 62.3 | | ug/L | | 125 | 72 - 127 |
| 1,1,2-Trichloroethane | 50.0 | 53.8 | | ug/L | | 108 | 69 - 127 |
| Tetrachloroethene | 50.0 | 54.6 | | ug/L | | 109 | 77 - 128 |
| 2-Hexanone | 250 | 269 | | ug/L | | 107 | 52 - 149 |
| Dibromochloromethane | 50.0 | 60.9 | | ug/L | | 122 | 63 - 134 |
| 1,2-Dibromoethane | 50.0 | 58.0 | | ug/L | | 116 | 75 - 127 |
| Chlorobenzene | 50.0 | 51.1 | | ug/L | | 102 | 79 - 120 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-354720/3**
**Matrix: Water**
**Analysis Batch: 354720**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | | | 50.0 | 49.6 | | ug/L | | 99 | 78 - 125 | | |
| Xylenes, Total | | | 100 | 99.9 | | ug/L | | 100 | 80 - 124 | | |
| Styrene | | | 50.0 | 52.5 | | ug/L | | 105 | 75 - 129 | | |
| Bromoform | | | 50.0 | 54.8 | | ug/L | | 110 | 60 - 134 | | |
| Isopropylbenzene | | | 50.0 | 50.4 | | ug/L | | 101 | 72 - 129 | | |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 50.4 | | ug/L | | 101 | 71 - 127 | | |
| 1,3-Dichlorobenzene | | | 50.0 | 48.0 | | ug/L | | 96 | 79 - 123 | | |
| 1,4-Dichlorobenzene | | | 50.0 | 48.0 | | ug/L | | 96 | 76 - 124 | | |
| 1,2-Dichlorobenzene | | | 50.0 | 48.2 | | ug/L | | 96 | 77 - 124 | | |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 50.7 | | ug/L | | 101 | 57 - 126 | | |
| 1,2,4-Trichlorobenzene | | | 50.0 | 49.3 | | ug/L | | 99 | 67 - 134 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *96* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *110* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* |

**Lab Sample ID: LCSD 680-354720/4**
**Matrix: Water**
**Analysis Batch: 354720**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | | | 50.0 | 45.4 | | ug/L | | 91 | 41 - 165 | 4 | 50 |
| Chloromethane | | | 50.0 | 45.2 | | ug/L | | 90 | 47 - 151 | 10 | 30 |
| Vinyl chloride | | | 50.0 | 50.0 | | ug/L | | 100 | 58 - 141 | 0 | 30 |
| Bromomethane | | | 50.0 | 85.1 | | ug/L | | 170 | 10 - 171 | 7 | 50 |
| Chloroethane | | | 50.0 | 56.1 | | ug/L | | 112 | 47 - 148 | 2 | 40 |
| Trichlorofluoromethane | | | 50.0 | 45.4 | | ug/L | | 91 | 66 - 144 | 2 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 47.0 | | ug/L | | 94 | 73 - 134 | 0 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 46.0 | | ug/L | | 92 | 72 - 139 | 1 | 30 |
| Acetone | | | 250 | 276 | | ug/L | | 110 | 39 - 162 | 3 | 50 |
| Carbon disulfide | | | 50.0 | 46.4 | | ug/L | | 93 | 63 - 142 | 1 | 30 |
| Methyl acetate | | | 250 | 256 | | ug/L | | 102 | 26 - 182 | 5 | 30 |
| Methylene Chloride | | | 50.0 | 52.5 | | ug/L | | 105 | 79 - 124 | 0 | 30 |
| trans-1,2-Dichloroethene | | | 50.0 | 51.1 | | ug/L | | 102 | 78 - 130 | 3 | 30 |
| Methyl tert-butyl ether | | | 50.0 | 53.6 | | ug/L | | 107 | 76 - 126 | 2 | 30 |
| 1,1-Dichloroethane | | | 50.0 | 52.8 | | ug/L | | 106 | 69 - 132 | 0 | 30 |
| cis-1,2-Dichloroethene | | | 50.0 | 54.9 | | ug/L | | 110 | 78 - 127 | 2 | 30 |
| 2-Butanone | | | 250 | 269 | | ug/L | | 107 | 55 - 142 | 4 | 30 |
| Chloroform | | | 50.0 | 54.3 | | ug/L | | 109 | 76 - 128 | 0 | 30 |
| 1,1,1-Trichloroethane | | | 50.0 | 50.5 | | ug/L | | 101 | 76 - 126 | 0 | 30 |
| Cyclohexane | | | 50.0 | 46.8 | | ug/L | | 94 | 68 - 137 | 3 | 30 |
| Carbon tetrachloride | | | 50.0 | 47.4 | | ug/L | | 95 | 70 - 131 | 3 | 30 |
| Benzene | | | 50.0 | 53.1 | | ug/L | | 106 | 74 - 123 | 0 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 54.6 | | ug/L | | 109 | 75 - 120 | 3 | 30 |
| Trichloroethene | | | 50.0 | 51.8 | | ug/L | | 104 | 80 - 120 | 1 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-354720/4**
**Matrix: Water**
**Analysis Batch: 354720**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Methylcyclohexane | 50.0 | 51.3 | | ug/L | | 103 | 72 - 133 | 3 | 30 |
| 1,2-Dichloropropane | 50.0 | 55.2 | | ug/L | | 110 | 71 - 126 | 0 | 30 |
| Bromodichloromethane | 50.0 | 57.0 | | ug/L | | 114 | 72 - 129 | 0 | 30 |
| cis-1,3-Dichloropropene | 50.0 | 60.9 | | ug/L | | 122 | 73 - 128 | 0 | 30 |
| 4-Methyl-2-pentanone | 250 | 273 | | ug/L | | 109 | 51 - 143 | 2 | 30 |
| Toluene | 50.0 | 53.3 | | ug/L | | 107 | 77 - 125 | 2 | 30 |
| trans-1,3-Dichloropropene | 50.0 | 61.4 | | ug/L | | 123 | 72 - 127 | 1 | 50 |
| 1,1,2-Trichloroethane | 50.0 | 53.3 | | ug/L | | 107 | 69 - 127 | 1 | 30 |
| Tetrachloroethene | 50.0 | 54.5 | | ug/L | | 109 | 77 - 128 | 0 | 30 |
| 2-Hexanone | 250 | 273 | | ug/L | | 109 | 52 - 149 | 2 | 30 |
| Dibromochloromethane | 50.0 | 61.2 | | ug/L | | 122 | 63 - 134 | 0 | 50 |
| 1,2-Dibromoethane | 50.0 | 56.4 | | ug/L | | 113 | 75 - 127 | 3 | 30 |
| Chlorobenzene | 50.0 | 51.8 | | ug/L | | 104 | 79 - 120 | 1 | 30 |
| Ethylbenzene | 50.0 | 50.1 | | ug/L | | 100 | 78 - 125 | 1 | 30 |
| Xylenes, Total | 100 | 102 | | ug/L | | 102 | 80 - 124 | 2 | 30 |
| Styrene | 50.0 | 53.8 | | ug/L | | 108 | 75 - 129 | 2 | 30 |
| Bromoform | 50.0 | 54.9 | | ug/L | | 110 | 60 - 134 | 0 | 30 |
| Isopropylbenzene | 50.0 | 51.4 | | ug/L | | 103 | 72 - 129 | 2 | 30 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 51.5 | | ug/L | | 103 | 71 - 127 | 2 | 30 |
| 1,3-Dichlorobenzene | 50.0 | 48.2 | | ug/L | | 96 | 79 - 123 | 0 | 30 |
| 1,4-Dichlorobenzene | 50.0 | 48.0 | | ug/L | | 96 | 76 - 124 | 0 | 30 |
| 1,2-Dichlorobenzene | 50.0 | 48.0 | | ug/L | | 96 | 77 - 124 | 0 | 30 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 51.8 | | ug/L | | 104 | 57 - 126 | 2 | 50 |
| 1,2,4-Trichlorobenzene | 50.0 | 49.3 | | ug/L | | 99 | 67 - 134 | 0 | 30 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *107* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *110* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* |

**Lab Sample ID: MB 680-354918/9**
**Matrix: Water**
**Analysis Batch: 354918**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 10:49 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 10:49 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 10:49 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 10:49 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/23/14 10:49 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 10:49 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/23/14 10:49 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/23/14 10:49 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/23/14 10:49 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/23/14 10:49 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-354918/9**
**Matrix: Water**
**Analysis Batch: 354918**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/23/14 10:49 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 10:49 | 1 |
| cis-1,2-Dichloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 10:49 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 10:49 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 10:49 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 10:49 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 10:49 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 10:49 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 10:49 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 10:49 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 10:49 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 10:49 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 10:49 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/23/14 10:49 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/23/14 10:49 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/23/14 10:49 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/23/14 10:49 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 10:49 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 10:49 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 10:49 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/23/14 10:49 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/23/14 10:49 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/23/14 10:49 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/23/14 10:49 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/23/14 10:49 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* | | *10/23/14 10:49* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *70 - 130* | | *10/23/14 10:49* | *1* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* | | *10/23/14 10:49* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/23/14 10:49* | *1* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-354918/4**
**Matrix: Water**
**Analysis Batch: 354918**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 57.6 | | ug/L | | 115 | 41 - 165 |
| Chloromethane | 50.0 | 60.3 | | ug/L | | 121 | 47 - 151 |
| Vinyl chloride | 50.0 | 54.0 | | ug/L | | 108 | 58 - 141 |
| Bromomethane | 50.0 | 63.3 | | ug/L | | 127 | 10 - 171 |
| Chloroethane | 50.0 | 57.8 | | ug/L | | 116 | 47 - 148 |
| Trichlorofluoromethane | 50.0 | 38.5 | | ug/L | | 77 | 66 - 144 |
| 1,1-Dichloroethene | 50.0 | 48.2 | | ug/L | | 96 | 73 - 134 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 39.5 | | ug/L | | 79 | 72 - 139 |
| Acetone | 250 | 263 | | ug/L | | 105 | 39 - 162 |
| Carbon disulfide | 50.0 | 50.4 | | ug/L | | 101 | 63 - 142 |
| Methyl acetate | 250 | 259 | | ug/L | | 104 | 26 - 182 |
| Methylene Chloride | 50.0 | 54.0 | | ug/L | | 108 | 79 - 124 |
| trans-1,2-Dichloroethene | 50.0 | 51.7 | | ug/L | | 103 | 78 - 130 |
| Methyl tert-butyl ether | 50.0 | 58.0 | | ug/L | | 116 | 76 - 126 |
| 1,1-Dichloroethane | 50.0 | 55.4 | | ug/L | | 111 | 69 - 132 |
| cis-1,2-Dichloroethene | 50.0 | 55.1 | | ug/L | | 110 | 78 - 127 |
| 2-Butanone | 250 | 275 | | ug/L | | 110 | 55 - 142 |
| Chloroform | 50.0 | 54.4 | | ug/L | | 109 | 76 - 128 |
| 1,1,1-Trichloroethane | 50.0 | 48.5 | | ug/L | | 97 | 76 - 126 |
| Cyclohexane | 50.0 | 38.5 | | ug/L | | 77 | 68 - 137 |
| Carbon tetrachloride | 50.0 | 46.6 | | ug/L | | 93 | 70 - 131 |
| Benzene | 50.0 | 52.4 | | ug/L | | 105 | 74 - 123 |
| 1,2-Dichloroethane | 50.0 | 55.4 | | ug/L | | 111 | 75 - 120 |
| Trichloroethene | 50.0 | 51.3 | | ug/L | | 103 | 80 - 120 |
| Methylcyclohexane | 50.0 | 37.8 | | ug/L | | 76 | 72 - 133 |
| 1,2-Dichloropropane | 50.0 | 53.9 | | ug/L | | 108 | 71 - 126 |
| Bromodichloromethane | 50.0 | 57.0 | | ug/L | | 114 | 72 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 56.9 | | ug/L | | 114 | 73 - 128 |
| 4-Methyl-2-pentanone | 250 | 280 | | ug/L | | 112 | 51 - 143 |
| Toluene | 50.0 | 51.2 | | ug/L | | 102 | 77 - 125 |
| trans-1,3-Dichloropropene | 50.0 | 57.7 | | ug/L | | 115 | 72 - 127 |
| 1,1,2-Trichloroethane | 50.0 | 54.5 | | ug/L | | 109 | 69 - 127 |
| Tetrachloroethene | 50.0 | 47.4 | | ug/L | | 95 | 77 - 128 |
| 2-Hexanone | 250 | 283 | | ug/L | | 113 | 52 - 149 |
| Dibromochloromethane | 50.0 | 59.8 | | ug/L | | 120 | 63 - 134 |
| 1,2-Dibromoethane | 50.0 | 56.0 | | ug/L | | 112 | 75 - 127 |
| Chlorobenzene | 50.0 | 49.7 | | ug/L | | 99 | 79 - 120 |
| Ethylbenzene | 50.0 | 48.9 | | ug/L | | 98 | 78 - 125 |
| Xylenes, Total | 100 | 98.5 | | ug/L | | 98 | 80 - 124 |
| Styrene | 50.0 | 52.8 | | ug/L | | 106 | 75 - 129 |
| Bromoform | 50.0 | 50.4 | | ug/L | | 101 | 60 - 134 |
| Isopropylbenzene | 50.0 | 47.7 | | ug/L | | 95 | 72 - 129 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 53.8 | | ug/L | | 108 | 71 - 127 |
| 1,3-Dichlorobenzene | 50.0 | 50.3 | | ug/L | | 101 | 79 - 123 |
| 1,4-Dichlorobenzene | 50.0 | 49.9 | | ug/L | | 100 | 76 - 124 |
| 1,2-Dichlorobenzene | 50.0 | 51.8 | | ug/L | | 104 | 77 - 124 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 46.2 | | ug/L | | 92 | 57 - 126 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-354918/4**
**Matrix: Water**
**Analysis Batch: 354918**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | | | 50.0 | 40.1 | | ug/L | | 80 | 67 - 134 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *109* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* |

**Lab Sample ID: LCSD 680-354918/5**
**Matrix: Water**
**Analysis Batch: 354918**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | | | 50.0 | 71.1 | | ug/L | | 142 | 41 - 165 | 21 | 50 |
| Chloromethane | | | 50.0 | 59.2 | | ug/L | | 118 | 47 - 151 | 2 | 30 |
| Vinyl chloride | | | 50.0 | 58.3 | | ug/L | | 117 | 58 - 141 | 8 | 30 |
| Bromomethane | | | 50.0 | 60.1 | | ug/L | | 120 | 10 - 171 | 5 | 50 |
| Chloroethane | | | 50.0 | 57.8 | | ug/L | | 116 | 47 - 148 | 0 | 40 |
| Trichlorofluoromethane | | | 50.0 | 44.6 | | ug/L | | 89 | 66 - 144 | 15 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 47.9 | | ug/L | | 96 | 73 - 134 | 0 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 44.7 | | ug/L | | 89 | 72 - 139 | 12 | 30 |
| Acetone | | | 250 | 243 | | ug/L | | 97 | 39 - 162 | 8 | 50 |
| Carbon disulfide | | | 50.0 | 50.7 | | ug/L | | 101 | 63 - 142 | 1 | 30 |
| Methyl acetate | | | 250 | 249 | | ug/L | | 100 | 26 - 182 | 4 | 30 |
| Methylene Chloride | | | 50.0 | 53.4 | | ug/L | | 107 | 79 - 124 | 1 | 30 |
| trans-1,2-Dichloroethene | | | 50.0 | 51.5 | | ug/L | | 103 | 78 - 130 | 0 | 30 |
| Methyl tert-butyl ether | | | 50.0 | 55.9 | | ug/L | | 112 | 76 - 126 | 4 | 30 |
| 1,1-Dichloroethane | | | 50.0 | 54.3 | | ug/L | | 109 | 69 - 132 | 2 | 30 |
| cis-1,2-Dichloroethene | | | 50.0 | 53.9 | | ug/L | | 108 | 78 - 127 | 2 | 30 |
| 2-Butanone | | | 250 | 264 | | ug/L | | 105 | 55 - 142 | 4 | 30 |
| Chloroform | | | 50.0 | 53.4 | | ug/L | | 107 | 76 - 128 | 2 | 30 |
| 1,1,1-Trichloroethane | | | 50.0 | 48.9 | | ug/L | | 98 | 76 - 126 | 1 | 30 |
| Cyclohexane | | | 50.0 | 43.2 | | ug/L | | 86 | 68 - 137 | 12 | 30 |
| Carbon tetrachloride | | | 50.0 | 49.1 | | ug/L | | 98 | 70 - 131 | 5 | 30 |
| Benzene | | | 50.0 | 51.4 | | ug/L | | 103 | 74 - 123 | 2 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 53.7 | | ug/L | | 107 | 75 - 120 | 3 | 30 |
| Trichloroethene | | | 50.0 | 50.9 | | ug/L | | 102 | 80 - 120 | 1 | 30 |
| Methylcyclohexane | | | 50.0 | 43.1 | | ug/L | | 86 | 72 - 133 | 13 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 53.4 | | ug/L | | 107 | 71 - 126 | 1 | 30 |
| Bromodichloromethane | | | 50.0 | 56.0 | | ug/L | | 112 | 72 - 129 | 2 | 30 |
| cis-1,3-Dichloropropene | | | 50.0 | 55.8 | | ug/L | | 112 | 73 - 128 | 2 | 30 |
| 4-Methyl-2-pentanone | | | 250 | 269 | | ug/L | | 108 | 51 - 143 | 4 | 30 |
| Toluene | | | 50.0 | 50.5 | | ug/L | | 101 | 77 - 125 | 1 | 30 |
| trans-1,3-Dichloropropene | | | 50.0 | 56.4 | | ug/L | | 113 | 72 - 127 | 2 | 50 |
| 1,1,2-Trichloroethane | | | 50.0 | 53.2 | | ug/L | | 106 | 69 - 127 | 2 | 30 |
| Tetrachloroethene | | | 50.0 | 47.5 | | ug/L | | 95 | 77 - 128 | 0 | 30 |
| 2-Hexanone | | | 250 | 275 | | ug/L | | 110 | 52 - 149 | 3 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-354918/5**
**Matrix: Water**
**Analysis Batch: 354918**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dibromochloromethane | | | 50.0 | 58.9 | | ug/L | | 118 | 63 - 134 | 2 | 50 |
| 1,2-Dibromoethane | | | 50.0 | 55.2 | | ug/L | | 110 | 75 - 127 | 1 | 30 |
| Chlorobenzene | | | 50.0 | 50.1 | | ug/L | | 100 | 79 - 120 | 1 | 30 |
| Ethylbenzene | | | 50.0 | 49.7 | | ug/L | | 99 | 78 - 125 | 2 | 30 |
| Xylenes, Total | | | 100 | 100 | | ug/L | | 100 | 80 - 124 | 2 | 30 |
| Styrene | | | 50.0 | 52.9 | | ug/L | | 106 | 75 - 129 | 0 | 30 |
| Bromoform | | | 50.0 | 50.3 | | ug/L | | 101 | 60 - 134 | 0 | 30 |
| Isopropylbenzene | | | 50.0 | 49.1 | | ug/L | | 98 | 72 - 129 | 3 | 30 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 52.4 | | ug/L | | 105 | 71 - 127 | 3 | 30 |
| 1,3-Dichlorobenzene | | | 50.0 | 49.6 | | ug/L | | 99 | 79 - 123 | 1 | 30 |
| 1,4-Dichlorobenzene | | | 50.0 | 49.2 | | ug/L | | 98 | 76 - 124 | 1 | 30 |
| 1,2-Dichlorobenzene | | | 50.0 | 51.2 | | ug/L | | 102 | 77 - 124 | 1 | 30 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 45.4 | | ug/L | | 91 | 57 - 126 | 2 | 50 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 39.7 | | ug/L | | 79 | 67 - 134 | 1 | 30 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *106* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* |

**Lab Sample ID: MB 680-355130/9**
**Matrix: Water**
**Analysis Batch: 355130**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/24/14 14:16 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/24/14 14:16 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/24/14 14:16 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/24/14 14:16 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/24/14 14:16 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/24/14 14:16 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/24/14 14:16 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/24/14 14:16 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/24/14 14:16 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/24/14 14:16 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/24/14 14:16 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/24/14 14:16 | 1 |
| cis-1,2-Dichloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/24/14 14:16 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/24/14 14:16 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/24/14 14:16 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/24/14 14:16 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/24/14 14:16 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/24/14 14:16 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-355130/9**
**Matrix: Water**
**Analysis Batch: 355130**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/24/14 14:16 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/24/14 14:16 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/24/14 14:16 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/24/14 14:16 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/24/14 14:16 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/24/14 14:16 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/24/14 14:16 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/24/14 14:16 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/24/14 14:16 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/24/14 14:16 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/24/14 14:16 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/24/14 14:16 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/24/14 14:16 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/24/14 14:16 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/24/14 14:16 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/24/14 14:16 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/24/14 14:16 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/24/14 14:16 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* | | *10/24/14 14:16* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *104* | | *70 - 130* | | *10/24/14 14:16* | *1* |
| *Dibromofluoromethane (Surr)* | *105* | | *70 - 130* | | *10/24/14 14:16* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/24/14 14:16* | *1* |

**Lab Sample ID: LCS 680-355130/5**
**Matrix: Water**
**Analysis Batch: 355130**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 74.0 | | ug/L | | 148 | 41 - 165 |
| Chloromethane | 50.0 | 66.6 | | ug/L | | 133 | 47 - 151 |
| Vinyl chloride | 50.0 | 61.8 | | ug/L | | 124 | 58 - 141 |
| Bromomethane | 50.0 | 58.3 | | ug/L | | 117 | 10 - 171 |
| Chloroethane | 50.0 | 62.9 | | ug/L | | 126 | 47 - 148 |
| Trichlorofluoromethane | 50.0 | 54.3 | | ug/L | | 109 | 66 - 144 |
| 1,1-Dichloroethene | 50.0 | 55.9 | | ug/L | | 112 | 73 - 134 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 53.0 | | ug/L | | 106 | 72 - 139 |
| Acetone | 250 | 270 | | ug/L | | 108 | 39 - 162 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-355130/5**
**Matrix: Water**
**Analysis Batch: 355130**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Carbon disulfide | 50.0 | 54.4 | | ug/L | | 109 | 63 - 142 |
| Methyl acetate | 250 | 263 | | ug/L | | 105 | 26 - 182 |
| Methylene Chloride | 50.0 | 53.7 | | ug/L | | 107 | 79 - 124 |
| trans-1,2-Dichloroethene | 50.0 | 54.9 | | ug/L | | 110 | 78 - 130 |
| Methyl tert-butyl ether | 50.0 | 57.8 | | ug/L | | 116 | 76 - 126 |
| 1,1-Dichloroethane | 50.0 | 58.5 | | ug/L | | 117 | 69 - 132 |
| cis-1,2-Dichloroethene | 50.0 | 57.8 | | ug/L | | 116 | 78 - 127 |
| 2-Butanone | 250 | 290 | | ug/L | | 116 | 55 - 142 |
| Chloroform | 50.0 | 57.4 | | ug/L | | 115 | 76 - 128 |
| 1,1,1-Trichloroethane | 50.0 | 53.5 | | ug/L | | 107 | 76 - 126 |
| Cyclohexane | 50.0 | 51.3 | | ug/L | | 103 | 68 - 137 |
| Carbon tetrachloride | 50.0 | 54.5 | | ug/L | | 109 | 70 - 131 |
| Benzene | 50.0 | 53.8 | | ug/L | | 108 | 74 - 123 |
| 1,2-Dichloroethane | 50.0 | 56.4 | | ug/L | | 113 | 75 - 120 |
| Trichloroethene | 50.0 | 53.9 | | ug/L | | 108 | 80 - 120 |
| Methylcyclohexane | 50.0 | 49.8 | | ug/L | | 100 | 72 - 133 |
| 1,2-Dichloropropane | 50.0 | 54.7 | | ug/L | | 109 | 71 - 126 |
| Bromodichloromethane | 50.0 | 58.5 | | ug/L | | 117 | 72 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 57.7 | | ug/L | | 115 | 73 - 128 |
| 4-Methyl-2-pentanone | 250 | 280 | | ug/L | | 112 | 51 - 143 |
| Toluene | 50.0 | 51.5 | | ug/L | | 103 | 77 - 125 |
| trans-1,3-Dichloropropene | 50.0 | 57.4 | | ug/L | | 115 | 72 - 127 |
| 1,1,2-Trichloroethane | 50.0 | 54.8 | | ug/L | | 110 | 69 - 127 |
| Tetrachloroethene | 50.0 | 49.9 | | ug/L | | 100 | 77 - 128 |
| 2-Hexanone | 250 | 284 | | ug/L | | 114 | 52 - 149 |
| Dibromochloromethane | 50.0 | 60.7 | | ug/L | | 121 | 63 - 134 |
| 1,2-Dibromoethane | 50.0 | 56.6 | | ug/L | | 113 | 75 - 127 |
| Chlorobenzene | 50.0 | 51.6 | | ug/L | | 103 | 79 - 120 |
| Ethylbenzene | 50.0 | 51.1 | | ug/L | | 102 | 78 - 125 |
| Xylenes, Total | 100 | 103 | | ug/L | | 103 | 80 - 124 |
| Styrene | 50.0 | 53.6 | | ug/L | | 107 | 75 - 129 |
| Bromoform | 50.0 | 51.3 | | ug/L | | 103 | 60 - 134 |
| Isopropylbenzene | 50.0 | 50.9 | | ug/L | | 102 | 72 - 129 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 55.7 | | ug/L | | 111 | 71 - 127 |
| 1,3-Dichlorobenzene | 50.0 | 51.6 | | ug/L | | 103 | 79 - 123 |
| 1,4-Dichlorobenzene | 50.0 | 51.5 | | ug/L | | 103 | 76 - 124 |
| 1,2-Dichlorobenzene | 50.0 | 53.1 | | ug/L | | 106 | 77 - 124 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 47.1 | | ug/L | | 94 | 57 - 126 |
| 1,2,4-Trichlorobenzene | 50.0 | 43.7 | | ug/L | | 87 | 67 - 134 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *112* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-355130/6**
**Matrix: Water**
**Analysis Batch: 355130**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 82.2 | | ug/L | | 164 | 41 - 165 | 10 | 50 |
| Chloromethane | 50.0 | 66.4 | | ug/L | | 133 | 47 - 151 | 0 | 30 |
| Vinyl chloride | 50.0 | 62.3 | | ug/L | | 125 | 58 - 141 | 1 | 30 |
| Bromomethane | 50.0 | 59.0 | | ug/L | | 118 | 10 - 171 | 1 | 50 |
| Chloroethane | 50.0 | 62.1 | | ug/L | | 124 | 47 - 148 | 1 | 40 |
| Trichlorofluoromethane | 50.0 | 45.1 | | ug/L | | 90 | 66 - 144 | 19 | 30 |
| 1,1-Dichloroethene | 50.0 | 52.7 | | ug/L | | 105 | 73 - 134 | 6 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 52.5 | | ug/L | | 105 | 72 - 139 | 1 | 30 |
| Acetone | 250 | 278 | | ug/L | | 111 | 39 - 162 | 3 | 50 |
| Carbon disulfide | 50.0 | 53.9 | | ug/L | | 108 | 63 - 142 | 1 | 30 |
| Methyl acetate | 250 | 276 | | ug/L | | 111 | 26 - 182 | 5 | 30 |
| Methylene Chloride | 50.0 | 54.8 | | ug/L | | 110 | 79 - 124 | 2 | 30 |
| trans-1,2-Dichloroethene | 50.0 | 55.0 | | ug/L | | 110 | 78 - 130 | 0 | 30 |
| Methyl tert-butyl ether | 50.0 | 58.3 | | ug/L | | 117 | 76 - 126 | 1 | 30 |
| 1,1-Dichloroethane | 50.0 | 57.0 | | ug/L | | 114 | 69 - 132 | 3 | 30 |
| cis-1,2-Dichloroethene | 50.0 | 56.7 | | ug/L | | 113 | 78 - 127 | 2 | 30 |
| 2-Butanone | 250 | 292 | | ug/L | | 117 | 55 - 142 | 1 | 30 |
| Chloroform | 50.0 | 55.9 | | ug/L | | 112 | 76 - 128 | 3 | 30 |
| 1,1,1-Trichloroethane | 50.0 | 52.6 | | ug/L | | 105 | 76 - 126 | 2 | 30 |
| Cyclohexane | 50.0 | 50.7 | | ug/L | | 101 | 68 - 137 | 1 | 30 |
| Carbon tetrachloride | 50.0 | 54.0 | | ug/L | | 108 | 70 - 131 | 1 | 30 |
| Benzene | 50.0 | 53.7 | | ug/L | | 107 | 74 - 123 | 0 | 30 |
| 1,2-Dichloroethane | 50.0 | 56.1 | | ug/L | | 112 | 75 - 120 | 1 | 30 |
| Trichloroethene | 50.0 | 54.0 | | ug/L | | 108 | 80 - 120 | 0 | 30 |
| Methylcyclohexane | 50.0 | 49.9 | | ug/L | | 100 | 72 - 133 | 0 | 30 |
| 1,2-Dichloropropane | 50.0 | 54.6 | | ug/L | | 109 | 71 - 126 | 0 | 30 |
| Bromodichloromethane | 50.0 | 58.4 | | ug/L | | 117 | 72 - 129 | 0 | 30 |
| cis-1,3-Dichloropropene | 50.0 | 56.7 | | ug/L | | 113 | 73 - 128 | 2 | 30 |
| 4-Methyl-2-pentanone | 250 | 285 | | ug/L | | 114 | 51 - 143 | 2 | 30 |
| Toluene | 50.0 | 51.4 | | ug/L | | 103 | 77 - 125 | 0 | 30 |
| trans-1,3-Dichloropropene | 50.0 | 57.5 | | ug/L | | 115 | 72 - 127 | 0 | 50 |
| 1,1,2-Trichloroethane | 50.0 | 55.0 | | ug/L | | 110 | 69 - 127 | 0 | 30 |
| Tetrachloroethene | 50.0 | 50.0 | | ug/L | | 100 | 77 - 128 | 0 | 30 |
| 2-Hexanone | 250 | 290 | | ug/L | | 116 | 52 - 149 | 2 | 30 |
| Dibromochloromethane | 50.0 | 61.1 | | ug/L | | 122 | 63 - 134 | 1 | 50 |
| 1,2-Dibromoethane | 50.0 | 57.4 | | ug/L | | 115 | 75 - 127 | 1 | 30 |
| Chlorobenzene | 50.0 | 51.4 | | ug/L | | 103 | 79 - 120 | 0 | 30 |
| Ethylbenzene | 50.0 | 50.9 | | ug/L | | 102 | 78 - 125 | 0 | 30 |
| Xylenes, Total | 100 | 102 | | ug/L | | 102 | 80 - 124 | 1 | 30 |
| Styrene | 50.0 | 53.1 | | ug/L | | 106 | 75 - 129 | 1 | 30 |
| Bromoform | 50.0 | 51.0 | | ug/L | | 102 | 60 - 134 | 1 | 30 |
| Isopropylbenzene | 50.0 | 50.4 | | ug/L | | 101 | 72 - 129 | 1 | 30 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 55.1 | | ug/L | | 110 | 71 - 127 | 1 | 30 |
| 1,3-Dichlorobenzene | 50.0 | 50.2 | | ug/L | | 100 | 79 - 123 | 3 | 30 |
| 1,4-Dichlorobenzene | 50.0 | 50.2 | | ug/L | | 100 | 76 - 124 | 3 | 30 |
| 1,2-Dichlorobenzene | 50.0 | 52.7 | | ug/L | | 105 | 77 - 124 | 1 | 30 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 46.0 | | ug/L | | 92 | 57 - 126 | 2 | 50 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-355130/6**
**Matrix: Water**
**Analysis Batch: 355130**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | | | 50.0 | 42.5 | | ug/L | | 85 | 67 - 134 | 3 | 30 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *111* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* |

**Lab Sample ID: MB 680-355315/9**
**Matrix: Water**
**Analysis Batch: 355315**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 12:44 | 1 |
| Chloromethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/25/14 12:44 | 1 |
| Vinyl chloride | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/25/14 12:44 | 1 |
| Bromomethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/25/14 12:44 | 1 |
| Chloroethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/25/14 12:44 | 1 |
| Trichlorofluoromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,1-Dichloroethene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/25/14 12:44 | 1 |
| Acetone | <5.0 | | 10 | 5.0 | ug/L | | | 10/25/14 12:44 | 1 |
| Carbon disulfide | <0.60 | | 2.0 | 0.60 | ug/L | | | 10/25/14 12:44 | 1 |
| Methyl acetate | <0.19 | | 5.0 | 0.19 | ug/L | | | 10/25/14 12:44 | 1 |
| Methylene Chloride | <1.0 | | 5.0 | 1.0 | ug/L | | | 10/25/14 12:44 | 1 |
| trans-1,2-Dichloroethene | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/25/14 12:44 | 1 |
| Methyl tert-butyl ether | <0.20 | | 10 | 0.20 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,1-Dichloroethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 12:44 | 1 |
| cis-1,2-Dichloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/25/14 12:44 | 1 |
| 2-Butanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/25/14 12:44 | 1 |
| Chloroform | <0.14 | | 1.0 | 0.14 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,1,1-Trichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/25/14 12:44 | 1 |
| Cyclohexane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 12:44 | 1 |
| Carbon tetrachloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/25/14 12:44 | 1 |
| Benzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,2-Dichloroethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/25/14 12:44 | 1 |
| Trichloroethene | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/25/14 12:44 | 1 |
| Methylcyclohexane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,2-Dichloropropane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/25/14 12:44 | 1 |
| Bromodichloromethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 12:44 | 1 |
| cis-1,3-Dichloropropene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/25/14 12:44 | 1 |
| 4-Methyl-2-pentanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/25/14 12:44 | 1 |
| Toluene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/25/14 12:44 | 1 |
| trans-1,3-Dichloropropene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,1,2-Trichloroethane | <0.13 | | 1.0 | 0.13 | ug/L | | | 10/25/14 12:44 | 1 |
| Tetrachloroethene | <0.15 | | 1.0 | 0.15 | ug/L | | | 10/25/14 12:44 | 1 |
| 2-Hexanone | <1.0 | | 10 | 1.0 | ug/L | | | 10/25/14 12:44 | 1 |
| Dibromochloromethane | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/25/14 12:44 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-355315/9**
**Matrix: Water**
**Analysis Batch: 355315**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromoethane | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 12:44 | 1 |
| Chlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 12:44 | 1 |
| Ethylbenzene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/25/14 12:44 | 1 |
| Xylenes, Total | <0.20 | | 2.0 | 0.20 | ug/L | | | 10/25/14 12:44 | 1 |
| Styrene | <0.11 | | 1.0 | 0.11 | ug/L | | | 10/25/14 12:44 | 1 |
| Bromoform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/25/14 12:44 | 1 |
| Isopropylbenzene | <0.10 | | 1.0 | 0.10 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.18 | | 1.0 | 0.18 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,3-Dichlorobenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,4-Dichlorobenzene | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,2-Dichlorobenzene | <0.21 | | 1.0 | 0.21 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.44 | | 5.0 | 0.44 | ug/L | | | 10/25/14 12:44 | 1 |
| 1,2,4-Trichlorobenzene | <0.25 | | 5.0 | 0.25 | ug/L | | | 10/25/14 12:44 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *97* | | *70 - 130* | | *10/25/14 12:44* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* | | *10/25/14 12:44* | *1* |
| *Dibromofluoromethane (Surr)* | *97* | | *70 - 130* | | *10/25/14 12:44* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/25/14 12:44* | *1* |

**Lab Sample ID: LCS 680-355315/4**
**Matrix: Water**
**Analysis Batch: 355315**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 76.7 | | ug/L | | 153 | 41 - 165 |
| Chloromethane | 50.0 | 50.1 | | ug/L | | 100 | 47 - 151 |
| Vinyl chloride | 50.0 | 48.5 | | ug/L | | 97 | 58 - 141 |
| Bromomethane | 50.0 | 52.9 | | ug/L | | 106 | 10 - 171 |
| Chloroethane | 50.0 | 45.8 | | ug/L | | 92 | 47 - 148 |
| Trichlorofluoromethane | 50.0 | 49.2 | | ug/L | | 98 | 66 - 144 |
| 1,1-Dichloroethene | 50.0 | 46.7 | | ug/L | | 93 | 73 - 134 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 47.7 | | ug/L | | 95 | 72 - 139 |
| Acetone | 250 | 251 | | ug/L | | 100 | 39 - 162 |
| Carbon disulfide | 50.0 | 50.2 | | ug/L | | 100 | 63 - 142 |
| Methyl acetate | 250 | 251 | | ug/L | | 100 | 26 - 182 |
| Methylene Chloride | 50.0 | 53.4 | | ug/L | | 107 | 79 - 124 |
| trans-1,2-Dichloroethene | 50.0 | 51.2 | | ug/L | | 102 | 78 - 130 |
| Methyl tert-butyl ether | 50.0 | 51.1 | | ug/L | | 102 | 76 - 126 |
| 1,1-Dichloroethane | 50.0 | 51.8 | | ug/L | | 104 | 69 - 132 |
| cis-1,2-Dichloroethene | 50.0 | 52.3 | | ug/L | | 105 | 78 - 127 |
| 2-Butanone | 250 | 252 | | ug/L | | 101 | 55 - 142 |
| Chloroform | 50.0 | 49.6 | | ug/L | | 99 | 76 - 128 |
| 1,1,1-Trichloroethane | 50.0 | 51.2 | | ug/L | | 102 | 76 - 126 |
| Cyclohexane | 50.0 | 51.2 | | ug/L | | 102 | 68 - 137 |
| Carbon tetrachloride | 50.0 | 56.6 | | ug/L | | 113 | 70 - 131 |
| Benzene | 50.0 | 51.4 | | ug/L | | 103 | 74 - 123 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-355315/4**
**Matrix: Water**
**Analysis Batch: 355315**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 50.0 | 49.1 | | ug/L | | 98 | 75 - 120 |
| Trichloroethene | 50.0 | 50.7 | | ug/L | | 101 | 80 - 120 |
| Methylcyclohexane | 50.0 | 52.6 | | ug/L | | 105 | 72 - 133 |
| 1,2-Dichloropropane | 50.0 | 56.1 | | ug/L | | 112 | 71 - 126 |
| Bromodichloromethane | 50.0 | 54.2 | | ug/L | | 108 | 72 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 57.3 | | ug/L | | 115 | 73 - 128 |
| 4-Methyl-2-pentanone | 250 | 248 | | ug/L | | 99 | 51 - 143 |
| Toluene | 50.0 | 49.2 | | ug/L | | 98 | 77 - 125 |
| trans-1,3-Dichloropropene | 50.0 | 57.7 | | ug/L | | 115 | 72 - 127 |
| 1,1,2-Trichloroethane | 50.0 | 48.2 | | ug/L | | 96 | 69 - 127 |
| Tetrachloroethene | 50.0 | 48.8 | | ug/L | | 98 | 77 - 128 |
| 2-Hexanone | 250 | 247 | | ug/L | | 99 | 52 - 149 |
| Dibromochloromethane | 50.0 | 58.5 | | ug/L | | 117 | 63 - 134 |
| 1,2-Dibromoethane | 50.0 | 51.7 | | ug/L | | 103 | 75 - 127 |
| Chlorobenzene | 50.0 | 50.7 | | ug/L | | 101 | 79 - 120 |
| Ethylbenzene | 50.0 | 50.6 | | ug/L | | 101 | 78 - 125 |
| Xylenes, Total | 100 | 104 | | ug/L | | 104 | 80 - 124 |
| Styrene | 50.0 | 50.9 | | ug/L | | 102 | 75 - 129 |
| Bromoform | 50.0 | 63.3 | | ug/L | | 127 | 60 - 134 |
| Isopropylbenzene | 50.0 | 51.1 | | ug/L | | 102 | 72 - 129 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 50.9 | | ug/L | | 102 | 71 - 127 |
| 1,3-Dichlorobenzene | 50.0 | 51.7 | | ug/L | | 103 | 79 - 123 |
| 1,4-Dichlorobenzene | 50.0 | 51.3 | | ug/L | | 103 | 76 - 124 |
| 1,2-Dichlorobenzene | 50.0 | 52.4 | | ug/L | | 105 | 77 - 124 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 61.2 | | ug/L | | 122 | 57 - 126 |
| 1,2,4-Trichlorobenzene | 50.0 | 53.6 | | ug/L | | 107 | 67 - 134 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *96* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *105* | | *70 - 130* |

**Lab Sample ID: LCSD 680-355315/5**
**Matrix: Water**
**Analysis Batch: 355315**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 46.5 | | ug/L | | 93 | 41 - 165 | 49 | 50 |
| Chloromethane | 50.0 | 46.3 | | ug/L | | 93 | 47 - 151 | 8 | 30 |
| Vinyl chloride | 50.0 | 45.5 | | ug/L | | 91 | 58 - 141 | 6 | 30 |
| Bromomethane | 50.0 | 47.2 | | ug/L | | 94 | 10 - 171 | 11 | 50 |
| Chloroethane | 50.0 | 41.0 | | ug/L | | 82 | 47 - 148 | 11 | 40 |
| Trichlorofluoromethane | 50.0 | 50.1 | | ug/L | | 100 | 66 - 144 | 2 | 30 |
| 1,1-Dichloroethene | 50.0 | 42.0 | | ug/L | | 84 | 73 - 134 | 11 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 44.4 | | ug/L | | 89 | 72 - 139 | 7 | 30 |
| Acetone | 250 | 212 | | ug/L | | 85 | 39 - 162 | 17 | 50 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-355315/5**
**Matrix: Water**
**Analysis Batch: 355315**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | | | 50.0 | 40.5 | | ug/L | | 81 | 63 - 142 | 21 | 30 |
| Methyl acetate | | | 250 | 214 | | ug/L | | 86 | 26 - 182 | 16 | 30 |
| Methylene Chloride | | | 50.0 | 47.1 | | ug/L | | 94 | 79 - 124 | 13 | 30 |
| trans-1,2-Dichloroethene | | | 50.0 | 44.9 | | ug/L | | 90 | 78 - 130 | 13 | 30 |
| Methyl tert-butyl ether | | | 50.0 | 45.1 | | ug/L | | 90 | 76 - 126 | 13 | 30 |
| 1,1-Dichloroethane | | | 50.0 | 44.0 | | ug/L | | 88 | 69 - 132 | 16 | 30 |
| cis-1,2-Dichloroethene | | | 50.0 | 47.0 | | ug/L | | 94 | 78 - 127 | 11 | 30 |
| 2-Butanone | | | 250 | 224 | | ug/L | | 90 | 55 - 142 | 12 | 30 |
| Chloroform | | | 50.0 | 45.0 | | ug/L | | 90 | 76 - 128 | 10 | 30 |
| 1,1,1-Trichloroethane | | | 50.0 | 48.3 | | ug/L | | 97 | 76 - 126 | 6 | 30 |
| Cyclohexane | | | 50.0 | 47.4 | | ug/L | | 95 | 68 - 137 | 8 | 30 |
| Carbon tetrachloride | | | 50.0 | 52.2 | | ug/L | | 104 | 70 - 131 | 8 | 30 |
| Benzene | | | 50.0 | 46.3 | | ug/L | | 93 | 74 - 123 | 11 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 44.6 | | ug/L | | 89 | 75 - 120 | 10 | 30 |
| Trichloroethene | | | 50.0 | 45.9 | | ug/L | | 92 | 80 - 120 | 10 | 30 |
| Methylcyclohexane | | | 50.0 | 43.7 | | ug/L | | 87 | 72 - 133 | 18 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 44.6 | | ug/L | | 89 | 71 - 126 | 23 | 30 |
| Bromodichloromethane | | | 50.0 | 47.3 | | ug/L | | 95 | 72 - 129 | 13 | 30 |
| cis-1,3-Dichloropropene | | | 50.0 | 48.5 | | ug/L | | 97 | 73 - 128 | 17 | 30 |
| 4-Methyl-2-pentanone | | | 250 | 202 | | ug/L | | 81 | 51 - 143 | 21 | 30 |
| Toluene | | | 50.0 | 41.9 | | ug/L | | 84 | 77 - 125 | 16 | 30 |
| trans-1,3-Dichloropropene | | | 50.0 | 50.1 | | ug/L | | 100 | 72 - 127 | 14 | 50 |
| 1,1,2-Trichloroethane | | | 50.0 | 41.1 | | ug/L | | 82 | 69 - 127 | 16 | 30 |
| Tetrachloroethene | | | 50.0 | 43.6 | | ug/L | | 87 | 77 - 128 | 11 | 30 |
| 2-Hexanone | | | 250 | 200 | | ug/L | | 80 | 52 - 149 | 21 | 30 |
| Dibromochloromethane | | | 50.0 | 50.5 | | ug/L | | 101 | 63 - 134 | 15 | 50 |
| 1,2-Dibromoethane | | | 50.0 | 43.6 | | ug/L | | 87 | 75 - 127 | 17 | 30 |
| Chlorobenzene | | | 50.0 | 46.9 | | ug/L | | 94 | 79 - 120 | 8 | 30 |
| Ethylbenzene | | | 50.0 | 46.9 | | ug/L | | 94 | 78 - 125 | 8 | 30 |
| Xylenes, Total | | | 100 | 95.8 | | ug/L | | 96 | 80 - 124 | 8 | 30 |
| Styrene | | | 50.0 | 46.9 | | ug/L | | 94 | 75 - 129 | 8 | 30 |
| Bromoform | | | 50.0 | 60.2 | | ug/L | | 120 | 60 - 134 | 5 | 30 |
| Isopropylbenzene | | | 50.0 | 46.9 | | ug/L | | 94 | 72 - 129 | 9 | 30 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 46.2 | | ug/L | | 92 | 71 - 127 | 10 | 30 |
| 1,3-Dichlorobenzene | | | 50.0 | 47.2 | | ug/L | | 94 | 79 - 123 | 9 | 30 |
| 1,4-Dichlorobenzene | | | 50.0 | 48.3 | | ug/L | | 97 | 76 - 124 | 6 | 30 |
| 1,2-Dichlorobenzene | | | 50.0 | 48.7 | | ug/L | | 97 | 77 - 124 | 7 | 30 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 57.0 | | ug/L | | 114 | 57 - 126 | 7 | 50 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 50.6 | | ug/L | | 101 | 67 - 134 | 6 | 30 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *90* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *84* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *87* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *70 - 130* |

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 680-354256/5**
**Matrix: Water**
**Analysis Batch: 354256**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Nitrate as N | <0.025 | | 0.050 | 0.025 | mg/L | | | 10/18/14 10:04 | 1 |
| Nitrite as N | <0.025 | | 0.050 | 0.025 | mg/L | | | 10/18/14 10:04 | 1 |

**Lab Sample ID: LCS 680-354256/6**
**Matrix: Water**
**Analysis Batch: 354256**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Nitrate as N | 0.999 | 0.993 | | mg/L | | 99 | 90 - 110 |
| Nitrite as N | 0.997 | 0.965 | | mg/L | | 97 | 90 - 110 |

**Lab Sample ID: LCSD 680-354256/7**
**Matrix: Water**
**Analysis Batch: 354256**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Nitrate as N | 0.999 | 0.995 | | mg/L | | 100 | 90 - 110 | 0 | 30 |
| Nitrite as N | 0.997 | 0.968 | | mg/L | | 97 | 90 - 110 | 0 | 30 |

**Lab Sample ID: 680-106392-3 MS**
**Matrix: Water**
**Analysis Batch: 354256**

**Client Sample ID: LAW-PZ-8R**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Nitrate as N | <0.13 | | 4.99 | 4.81 | | mg/L | | 96 | 80 - 120 |
| Nitrite as N | <0.13 | | 4.99 | 4.68 | | mg/L | | 94 | 80 - 120 |

**Lab Sample ID: 680-106392-3 MSD**
**Matrix: Water**
**Analysis Batch: 354256**

**Client Sample ID: LAW-PZ-8R**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nitrate as N | <0.13 | | 4.99 | 4.90 | | mg/L | | 98 | 80 - 120 | 2 | 30 |
| Nitrite as N | <0.13 | | 4.99 | 4.54 | | mg/L | | 91 | 80 - 120 | 3 | 30 |

**Lab Sample ID: MB 680-355755/6**
**Matrix: Water**
**Analysis Batch: 355755**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <0.25 | | 0.50 | 0.25 | mg/L | | | 10/28/14 18:04 | 1 |
| Sulfate | <0.25 | | 0.50 | 0.25 | mg/L | | | 10/28/14 18:04 | 1 |

**Lab Sample ID: LCS 680-355755/7**
**Matrix: Water**
**Analysis Batch: 355755**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Chloride | 10.0 | 10.2 | | mg/L | | 102 | 90 - 110 |

## Method: 9056A - Anions, Ion Chromatography (Continued)

**Lab Sample ID: LCS 680-355755/7**
**Matrix: Water**
**Analysis Batch: 355755**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Sulfate | 10.0 | 11.0 | | mg/L | | 110 | 90 - 110 |

**Lab Sample ID: LCSD 680-355755/8**
**Matrix: Water**
**Analysis Batch: 355755**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 10.0 | 10.2 | | mg/L | | 102 | 90 - 110 | 0 | 30 |
| Sulfate | 10.0 | 11.0 | | mg/L | | 110 | 90 - 110 | 0 | 30 |

**Lab Sample ID: MB 680-355809/2**
**Matrix: Water**
**Analysis Batch: 355809**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <0.25 | | 0.50 | 0.25 | mg/L | | | 10/29/14 09:09 | 1 |
| Sulfate | <0.25 | | 0.50 | 0.25 | mg/L | | | 10/29/14 09:09 | 1 |

**Lab Sample ID: LCS 680-355809/3**
**Matrix: Water**
**Analysis Batch: 355809**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Chloride | 10.0 | 10.1 | | mg/L | | 101 | 90 - 110 |
| Sulfate | 10.0 | 10.7 | | mg/L | | 107 | 90 - 110 |

**Lab Sample ID: LCSD 680-355809/4**
**Matrix: Water**
**Analysis Batch: 355809**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 10.0 | 10.1 | | mg/L | | 101 | 90 - 110 | 0 | 30 |
| Sulfate | 10.0 | 10.7 | | mg/L | | 107 | 90 - 110 | 0 | 30 |

## Method: 6010C - Metals (ICP)

**Lab Sample ID: MB 680-354408/1-A**
**Matrix: Water**
**Analysis Batch: 354793**

**Client Sample ID: Method Blank**
**Prep Type: Total Recoverable**
**Prep Batch: 354408**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Iron | <24 | | 50 | 24 | ug/L | | 10/20/14 13:30 | 10/21/14 20:16 | 1 |

**Lab Sample ID: LCS 680-354408/2-A**
**Matrix: Water**
**Analysis Batch: 354793**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total Recoverable**
**Prep Batch: 354408**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Iron | 5000 | 4990 | | ug/L | | 100 | 80 - 120 |

## Method: 310.1 - Alkalinity

**Lab Sample ID: MB 680-354981/5**
**Matrix: Water**
**Analysis Batch: 354981**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity | <5.0 | | 5.0 | 5.0 | mg/L | | | 10/22/14 17:27 | 1 |

**Lab Sample ID: LCS 680-354981/6**
**Matrix: Water**
**Analysis Batch: 354981**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity | 250 | 250 | | mg/L | | 100 | 80 - 120 |

**Lab Sample ID: LCSD 680-354981/32**
**Matrix: Water**
**Analysis Batch: 354981**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity | 250 | 252 | | mg/L | | 101 | 80 - 120 | 1 | 30 |

**Lab Sample ID: 680-106392-15 DU**
**Matrix: Water**
**Analysis Batch: 354981**

**Client Sample ID: MW-29**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|
| Alkalinity | 78 | | 79.0 | | mg/L | | 1 | 30 |

**Lab Sample ID: MB 680-355349/5**
**Matrix: Water**
**Analysis Batch: 355349**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity | <5.0 | | 5.0 | 5.0 | mg/L | | | 10/23/14 18:29 | 1 |

**Lab Sample ID: LCS 680-355349/6**
**Matrix: Water**
**Analysis Batch: 355349**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity | 250 | 251 | | mg/L | | 100 | 80 - 120 |

**Lab Sample ID: LCSD 680-355349/32**
**Matrix: Water**
**Analysis Batch: 355349**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity | 250 | 251 | | mg/L | | 100 | 80 - 120 | 0 | 30 |

**Lab Sample ID: 680-106392-3 DU**
**Matrix: Water**
**Analysis Batch: 355349**

**Client Sample ID: LAW-PZ-8R**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|
| Alkalinity | 240 | | 248 | | mg/L | | 5 | 30 |

**Lab Sample ID: 680-106392-18 DU**
**Matrix: Water**
**Analysis Batch: 355349**

**Client Sample ID: MW-32**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|
| Alkalinity | 89 | | 89.8 | | mg/L | | 1 | 30 |

## Method: 9034 - Sulfide, Acid Soluble and Insoluble (Titrimetric)

**Lab Sample ID: MB 680-354772/1-A**
**Matrix: Water**
**Analysis Batch: 354835**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 354772**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Sulfide | <10 | | 10 | 10 | mg/L | | 10/22/14 10:47 | 10/22/14 10:47 | 1 |

**Lab Sample ID: LCS 680-354772/2-A**
**Matrix: Water**
**Analysis Batch: 354835**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 354772**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Sulfide | 166 | 102 | | mg/L | | 61 | 50 - 150 |

**Lab Sample ID: 680-106392-3 MS**
**Matrix: Water**
**Analysis Batch: 354835**

**Client Sample ID: LAW-PZ-8R**
**Prep Type: Total/NA**
**Prep Batch: 354772**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Sulfide | <10 | | 166 | 98.6 | | mg/L | | 60 | 50 - 150 |

**Lab Sample ID: 680-106392-3 MSD**
**Matrix: Water**
**Analysis Batch: 354835**

**Client Sample ID: LAW-PZ-8R**
**Prep Type: Total/NA**
**Prep Batch: 354772**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfide | <10 | | 166 | 107 | | mg/L | | 64 | 50 - 150 | 8 | 50 |

## Method: 9060A - Organic Carbon, Total (TOC)

**Lab Sample ID: MB 680-355897/3**
**Matrix: Water**
**Analysis Batch: 355897**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | <0.50 | | 1.0 | 0.50 | mg/L | | | 10/28/14 15:38 | 1 |

**Lab Sample ID: LCS 680-355897/4**
**Matrix: Water**
**Analysis Batch: 355897**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Total Organic Carbon | 20.0 | 20.1 | | mg/L | | 100 | 80 - 120 |

## Method: 9060A - Organic Carbon, Total (TOC) (Continued)

**Lab Sample ID: LCSD 680-355897/5**
**Matrix: Water**
**Analysis Batch: 355897**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | | | 20.0 | 20.0 | | mg/L | | 100 | 80 - 120 | 0 | 25 |

**Lab Sample ID: 680-106392-3 MS**
**Matrix: Water**
**Analysis Batch: 355897**

**Client Sample ID: LAW-PZ-8R**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | 140 | | 80.0 | 223 | | mg/L | | 104 | 80 - 120 |

**Lab Sample ID: 680-106392-3 MSD**
**Matrix: Water**
**Analysis Batch: 355897**

**Client Sample ID: LAW-PZ-8R**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | 140 | | 80.0 | 220 | | mg/L | | 100 | 80 - 120 | 1 | 25 |

## GC/MS VOA

### Analysis Batch: 354720

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-1 | IW-1R | Total/NA | Water | 8260B | |
| 680-106392-2 | IW-18 | Total/NA | Water | 8260B | |
| 680-106392-3 | LAW-PZ-8R | Total/NA | Water | 8260B | |
| 680-106392-5 | MW-16 | Total/NA | Water | 8260B | |
| 680-106392-6 | MW-17R | Total/NA | Water | 8260B | |
| 680-106392-7 | MW-18R | Total/NA | Water | 8260B | |
| 680-106392-8 | MW-19 | Total/NA | Water | 8260B | |
| 680-106392-9 | MW-24R | Total/NA | Water | 8260B | |
| 680-106392-10 | MW-23 | Total/NA | Water | 8260B | |
| LCS 680-354720/3 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-354720/4 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-354720/8 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 354918

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-4 | MW-14 | Total/NA | Water | 8260B | |
| 680-106392-11 | MW-25 | Total/NA | Water | 8260B | |
| 680-106392-13 | MW-27 | Total/NA | Water | 8260B | |
| 680-106392-14 | MW-28 | Total/NA | Water | 8260B | |
| 680-106392-17 | MW-31 | Total/NA | Water | 8260B | |
| 680-106392-20 | MW-34 | Total/NA | Water | 8260B | |
| 680-106392-21 | MW-35 | Total/NA | Water | 8260B | |
| 680-106392-22 | MW-36 | Total/NA | Water | 8260B | |
| 680-106392-24 | PAN-MW-9 | Total/NA | Water | 8260B | |
| 680-106392-25 | PAN-MW-10 | Total/NA | Water | 8260B | |
| 680-106392-26 | Trip Blank | Total/NA | Water | 8260B | |
| LCS 680-354918/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-354918/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-354918/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 355130

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-12 | MW-26R | Total/NA | Water | 8260B | |
| 680-106392-18 | MW-32 | Total/NA | Water | 8260B | |
| 680-106392-19 | MW-33 | Total/NA | Water | 8260B | |
| 680-106392-23 | MW-37 | Total/NA | Water | 8260B | |
| LCS 680-355130/5 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-355130/6 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-355130/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 355315

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-15 | MW-29 | Total/NA | Water | 8260B | |
| 680-106392-16 | MW-30 | Total/NA | Water | 8260B | |
| LCS 680-355315/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-355315/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-355315/9 | Method Blank | Total/NA | Water | 8260B | |

## HPLC/IC

### Analysis Batch: 354256

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-3 | LAW-PZ-8R | Total/NA | Water | 9056A | |
| 680-106392-3 MS | LAW-PZ-8R | Total/NA | Water | 9056A | |
| 680-106392-3 MSD | LAW-PZ-8R | Total/NA | Water | 9056A | |
| 680-106392-15 | MW-29 | Total/NA | Water | 9056A | |
| 680-106392-18 | MW-32 | Total/NA | Water | 9056A | |
| 680-106392-18 | MW-32 | Total/NA | Water | 9056A | |
| LCS 680-354256/6 | Lab Control Sample | Total/NA | Water | 9056A | |
| LCSD 680-354256/7 | Lab Control Sample Dup | Total/NA | Water | 9056A | |
| MB 680-354256/5 | Method Blank | Total/NA | Water | 9056A | |

### Analysis Batch: 355755

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-3 | LAW-PZ-8R | Total/NA | Water | 9056A | |
| 680-106392-15 | MW-29 | Total/NA | Water | 9056A | |
| LCS 680-355755/7 | Lab Control Sample | Total/NA | Water | 9056A | |
| LCSD 680-355755/8 | Lab Control Sample Dup | Total/NA | Water | 9056A | |
| MB 680-355755/6 | Method Blank | Total/NA | Water | 9056A | |

### Analysis Batch: 355809

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-15 | MW-29 | Total/NA | Water | 9056A | |
| 680-106392-18 | MW-32 | Total/NA | Water | 9056A | |
| LCS 680-355809/3 | Lab Control Sample | Total/NA | Water | 9056A | |
| LCSD 680-355809/4 | Lab Control Sample Dup | Total/NA | Water | 9056A | |
| MB 680-355809/2 | Method Blank | Total/NA | Water | 9056A | |

## Metals

### Prep Batch: 354408

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-3 | LAW-PZ-8R | Total Recoverable | Water | 3005A | |
| 680-106392-15 | MW-29 | Total Recoverable | Water | 3005A | |
| 680-106392-18 | MW-32 | Total Recoverable | Water | 3005A | |
| LCS 680-354408/2-A | Lab Control Sample | Total Recoverable | Water | 3005A | |
| MB 680-354408/1-A | Method Blank | Total Recoverable | Water | 3005A | |

### Analysis Batch: 354793

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-3 | LAW-PZ-8R | Total Recoverable | Water | 6010C | 354408 |
| 680-106392-15 | MW-29 | Total Recoverable | Water | 6010C | 354408 |
| 680-106392-18 | MW-32 | Total Recoverable | Water | 6010C | 354408 |
| LCS 680-354408/2-A | Lab Control Sample | Total Recoverable | Water | 6010C | 354408 |
| MB 680-354408/1-A | Method Blank | Total Recoverable | Water | 6010C | 354408 |

## General Chemistry

### Prep Batch: 354772

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-3 | LAW-PZ-8R | Total/NA | Water | 9030B | |
| 680-106392-3 MS | LAW-PZ-8R | Total/NA | Water | 9030B | |

## General Chemistry (Continued)

### Prep Batch: 354772 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-3 MSD | LAW-PZ-8R | Total/NA | Water | 9030B | |
| 680-106392-15 | MW-29 | Total/NA | Water | 9030B | |
| 680-106392-18 | MW-32 | Total/NA | Water | 9030B | |
| LCS 680-354772/2-A | Lab Control Sample | Total/NA | Water | 9030B | |
| MB 680-354772/1-A | Method Blank | Total/NA | Water | 9030B | |

### Analysis Batch: 354835

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-3 | LAW-PZ-8R | Total/NA | Water | 9034 | 354772 |
| 680-106392-3 MS | LAW-PZ-8R | Total/NA | Water | 9034 | 354772 |
| 680-106392-3 MSD | LAW-PZ-8R | Total/NA | Water | 9034 | 354772 |
| 680-106392-15 | MW-29 | Total/NA | Water | 9034 | 354772 |
| 680-106392-18 | MW-32 | Total/NA | Water | 9034 | 354772 |
| LCS 680-354772/2-A | Lab Control Sample | Total/NA | Water | 9034 | 354772 |
| MB 680-354772/1-A | Method Blank | Total/NA | Water | 9034 | 354772 |

### Analysis Batch: 354981

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-15 | MW-29 | Total/NA | Water | 310.1 | |
| 680-106392-15 DU | MW-29 | Total/NA | Water | 310.1 | |
| LCS 680-354981/6 | Lab Control Sample | Total/NA | Water | 310.1 | |
| LCSD 680-354981/32 | Lab Control Sample Dup | Total/NA | Water | 310.1 | |
| MB 680-354981/5 | Method Blank | Total/NA | Water | 310.1 | |

### Analysis Batch: 355349

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-3 | LAW-PZ-8R | Total/NA | Water | 310.1 | |
| 680-106392-3 DU | LAW-PZ-8R | Total/NA | Water | 310.1 | |
| 680-106392-18 | MW-32 | Total/NA | Water | 310.1 | |
| 680-106392-18 DU | MW-32 | Total/NA | Water | 310.1 | |
| LCS 680-355349/6 | Lab Control Sample | Total/NA | Water | 310.1 | |
| LCSD 680-355349/32 | Lab Control Sample Dup | Total/NA | Water | 310.1 | |
| MB 680-355349/5 | Method Blank | Total/NA | Water | 310.1 | |

### Analysis Batch: 355897

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-106392-3 | LAW-PZ-8R | Total/NA | Water | 9060A | |
| 680-106392-3 MS | LAW-PZ-8R | Total/NA | Water | 9060A | |
| 680-106392-3 MSD | LAW-PZ-8R | Total/NA | Water | 9060A | |
| 680-106392-15 | MW-29 | Total/NA | Water | 9060A | |
| 680-106392-18 | MW-32 | Total/NA | Water | 9060A | |
| LCS 680-355897/4 | Lab Control Sample | Total/NA | Water | 9060A | |
| LCSD 680-355897/5 | Lab Control Sample Dup | Total/NA | Water | 9060A | |
| MB 680-355897/3 | Method Blank | Total/NA | Water | 9060A | |

## Client Sample ID: IW-1R

**Lab Sample ID: 680-106392-1**

**Date Collected: 10/17/14 11:27**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 200 | 5 mL | 5 mL | 354720 | 10/22/14 14:32 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: IW-18

**Lab Sample ID: 680-106392-2**

**Date Collected: 10/17/14 08:32**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 50 | 5 mL | 5 mL | 354720 | 10/22/14 14:10 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: LAW-PZ-8R

**Lab Sample ID: 680-106392-3**

**Date Collected: 10/17/14 10:03**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1000 | 5 mL | 5 mL | 354720 | 10/22/14 14:55 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |
| Total/NA | Analysis | 9056A | | 5 | 5 mL | 5 mL | 354256 | 10/18/14 12:35 | VAS | TAL SAV |
| | Instrument ID: CICG | | | | | | | | | |
| Total/NA | Analysis | 9056A | | 4 | 5 mL | 5 mL | 355755 | 10/28/14 19:51 | CMB | TAL SAV |
| | Instrument ID: CICG | | | | | | | | | |
| Total Recoverable | Prep | 3005A | | | 50 mL | 50 mL | 354408 | 10/20/14 13:30 | SP | TAL SAV |
| Total Recoverable | Analysis | 6010C | | 1 | 50 mL | 50 mL | 354793 | 10/21/14 22:15 | BCB | TAL SAV |
| | Instrument ID: ICPE | | | | | | | | | |
| Total/NA | Analysis | 310.1 | | 1 | | | 355349 | 10/23/14 19:18 | LBH | TAL SAV |
| | Instrument ID: MANTECH | | | | | | | | | |
| Total/NA | Analysis | 9034 | | 1 | 6 mL | 6 mL | 354835 | 10/22/14 10:47 | ANH | TAL SAV |
| | Instrument ID: NOEQUIP | | | | | | | | | |
| Total/NA | Prep | 9030B | | | 6 mL | 6 mL | 354772 | 10/22/14 10:47 | ANH | TAL SAV |
| Total/NA | Analysis | 9060A | | 4 | 25 mL | 25 | 355897 | 10/28/14 19:03 | PAT | TAL SAV |
| | Instrument ID: TOC3 | | | | | | | | | |

## Client Sample ID: MW-14

**Lab Sample ID: 680-106392-4**

**Date Collected: 10/13/14 16:32**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354918 | 10/23/14 12:59 | MMT | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

## Client Sample ID: MW-16
**Date Collected: 10/13/14 18:04**
**Date Received: 10/18/14 07:50**

## Lab Sample ID: 680-106392-5
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354720 | 10/22/14 11:32 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-17R
**Date Collected: 10/16/14 17:35**
**Date Received: 10/18/14 07:50**

## Lab Sample ID: 680-106392-6
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354720 | 10/22/14 11:54 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-18R
**Date Collected: 10/14/14 13:09**
**Date Received: 10/18/14 07:50**

## Lab Sample ID: 680-106392-7
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354720 | 10/22/14 12:17 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-19
**Date Collected: 10/13/14 14:15**
**Date Received: 10/18/14 07:50**

## Lab Sample ID: 680-106392-8
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354720 | 10/22/14 12:39 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-24R
**Date Collected: 10/14/14 11:23**
**Date Received: 10/18/14 07:50**

## Lab Sample ID: 680-106392-9
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 5 | 5 mL | 5 mL | 354720 | 10/22/14 13:25 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-23
**Date Collected: 10/13/14 12:06**
**Date Received: 10/18/14 07:50**

## Lab Sample ID: 680-106392-10
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354720 | 10/22/14 13:02 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-25

**Date Collected: 10/13/14 10:17**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-11**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354918 | 10/23/14 13:19 | MMT | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: MW-26R

**Date Collected: 10/15/14 16:30**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-12**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 5 | 5 mL | 5 mL | 355130 | 10/24/14 17:30 | TF1 | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: MW-27

**Date Collected: 10/13/14 10:26**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-13**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354918 | 10/23/14 13:39 | MMT | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: MW-28

**Date Collected: 10/17/14 14:32**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-14**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354918 | 10/23/14 13:59 | MMT | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: MW-29

**Date Collected: 10/15/14 17:51**
**Date Received: 10/18/14 07:50**

**Lab Sample ID: 680-106392-15**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 50 | 5 mL | 5 mL | 355315 | 10/25/14 16:18 | TAR | TAL SAV |
| | Instrument ID: CMSP | | | | | | | | | |
| Total/NA | Analysis | 9056A | | 2 | 5 mL | 5 mL | 354256 | 10/18/14 12:19 | VAS | TAL SAV |
| | Instrument ID: CICG | | | | | | | | | |
| Total/NA | Analysis | 9056A | | 2 | 5 mL | 5 mL | 355755 | 10/28/14 20:07 | CMB | TAL SAV |
| | Instrument ID: CICG | | | | | | | | | |
| Total/NA | Analysis | 9056A | | 10 | 5 mL | 5 mL | 355809 | 10/29/14 13:31 | CMB | TAL SAV |
| | Instrument ID: CICG | | | | | | | | | |
| Total Recoverable | Prep | 3005A | | | 50 mL | 50 mL | 354408 | 10/20/14 13:30 | SP | TAL SAV |
| Total Recoverable | Analysis | 6010C | | 1 | 50 mL | 50 mL | 354793 | 10/21/14 22:07 | BCB | TAL SAV |
| | Instrument ID: ICPE | | | | | | | | | |

## Client Sample ID: MW-29

**Lab Sample ID: 680-106392-15**

**Date Collected: 10/15/14 17:51**
**Matrix: Water**
**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 310.1 | | 1 | | | 354981 | 10/22/14 19:49 | LBH | TAL SAV |
| | Instrument ID: MANTECH | | | | | | | | | |
| Total/NA | Analysis | 9034 | | 1 | 6 mL | 6 mL | 354835 | 10/22/14 10:47 | ANH | TAL SAV |
| | Instrument ID: NOEQUIP | | | | | | | | | |
| Total/NA | Prep | 9030B | | | 6 mL | 6 mL | 354772 | 10/22/14 10:47 | ANH | TAL SAV |
| Total/NA | Analysis | 9060A | | 4 | 25 mL | 25 | 355897 | 10/28/14 19:54 | PAT | TAL SAV |
| | Instrument ID: TOC3 | | | | | | | | | |

## Client Sample ID: MW-30

**Lab Sample ID: 680-106392-16**

**Date Collected: 10/15/14 11:16**
**Matrix: Water**
**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 355315 | 10/25/14 16:40 | TAR | TAL SAV |
| | Instrument ID: CMSP | | | | | | | | | |

## Client Sample ID: MW-31

**Lab Sample ID: 680-106392-17**

**Date Collected: 10/13/14 11:14**
**Matrix: Water**
**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354918 | 10/23/14 15:00 | MMT | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: MW-32

**Lab Sample ID: 680-106392-18**

**Date Collected: 10/17/14 16:58**
**Matrix: Water**
**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 20 | 5 mL | 5 mL | 355130 | 10/24/14 18:30 | TF1 | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |
| Total/NA | Analysis | 9056A | | 1 | 5 mL | 5 mL | 354256 | 10/18/14 11:48 | VAS | TAL SAV |
| | Instrument ID: CICG | | | | | | | | | |
| Total/NA | Analysis | 9056A | | 5 | 5 mL | 5 mL | 354256 | 10/18/14 15:09 | VAS | TAL SAV |
| | Instrument ID: CICG | | | | | | | | | |
| Total/NA | Analysis | 9056A | | 5 | 5 mL | 5 mL | 355809 | 10/29/14 13:46 | CMB | TAL SAV |
| | Instrument ID: CICG | | | | | | | | | |
| Total Recoverable | Prep | 3005A | | | 50 mL | 50 mL | 354408 | 10/20/14 13:30 | SP | TAL SAV |
| Total Recoverable | Analysis | 6010C | | 1 | 50 mL | 50 mL | 354793 | 10/21/14 22:11 | BCB | TAL SAV |
| | Instrument ID: ICPE | | | | | | | | | |
| Total/NA | Analysis | 310.1 | | 1 | | | 355349 | 10/23/14 20:19 | LBH | TAL SAV |
| | Instrument ID: MANTECH | | | | | | | | | |

## Client Sample ID: MW-32

**Lab Sample ID: 680-106392-18**

**Date Collected: 10/17/14 16:58**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9034 | | 1 | 6 mL | 6 mL | 354835 | 10/22/14 10:47 | ANH | TAL SAV |
| | Instrument ID: NOEQUIP | | | | | | | | | |
| Total/NA | Prep | 9030B | | | 6 mL | 6 mL | 354772 | 10/22/14 10:47 | ANH | TAL SAV |
| Total/NA | Analysis | 9060A | | 1 | 25 mL | 25 | 355897 | 10/28/14 17:36 | PAT | TAL SAV |
| | Instrument ID: TOC3 | | | | | | | | | |

## Client Sample ID: MW-33

**Lab Sample ID: 680-106392-19**

**Date Collected: 10/14/14 17:02**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 5 | 5 mL | 5 mL | 355130 | 10/24/14 18:50 | TF1 | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: MW-34

**Lab Sample ID: 680-106392-20**

**Date Collected: 10/16/14 12:39**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354918 | 10/23/14 15:20 | MMT | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: MW-35

**Lab Sample ID: 680-106392-21**

**Date Collected: 10/16/14 16:24**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354918 | 10/23/14 15:40 | MMT | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: MW-36

**Lab Sample ID: 680-106392-22**

**Date Collected: 10/17/14 16:08**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354918 | 10/23/14 16:00 | MMT | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: MW-37

**Lab Sample ID: 680-106392-23**

**Date Collected: 10/16/14 13:46**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 2 | 5 mL | 5 mL | 355130 | 10/24/14 19:10 | TF1 | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: PAN-MW-9

**Lab Sample ID: 680-106392-24**

**Date Collected: 10/15/14 14:17**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 10 | 5 mL | 5 mL | 354918 | 10/23/14 18:02 | MMT | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: PAN-MW-10

**Lab Sample ID: 680-106392-25**

**Date Collected: 10/15/14 10:00**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354918 | 10/23/14 16:41 | MMT | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

## Client Sample ID: Trip Blank

**Lab Sample ID: 680-106392-26**

**Date Collected: 10/17/14 00:00**

**Matrix: Water**

**Date Received: 10/18/14 07:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 354918 | 10/23/14 12:39 | MMT | TAL SAV |
| | Instrument ID: CMSA2 | | | | | | | | | |

**Laboratory References:**

SC0015 = Microseeps, 220 William Pitt Way, Pittsburgh, PA 15238, TEL (412)826-5245

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433



October 31, 2014

Sheila Hoffman
Test America
5102 LaRoche Avenue
Savannah, GA 31404

RE: **680-106392-1 / VOPAK**

*Microseeps Workorder: 13724*

Dear Sheila Hoffman:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, October 21, 2014. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl 10/31/2014
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email info@microseeps.com.

Total Number of Pages 12



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Phone: (412) 826-5245
Fax: (412) 826-3433



## LABORATORY ACCREDITATIONS & CERTIFICATIONS

| | |
|---|---|
| **Accreditor:** | Pennsylvania Department of Environmental Protection, Bureau of Laboratories |
| **Accreditation ID:** | 02-00538 |
| **Scope:** | NELAP Non-Potable Water and Solid & Hazardous Waste |
| **Accreditor:** | South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification |
| **Accreditation ID:** | 89009003 |
| **Scope:** | Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA) |
| **Accreditor:** | NELAP: New Jersey, Department of Environmental Protection |
| **Accreditation ID:** | PA026 |
| **Scope:** | Non-Potable Water; Solid and Chemical Materials |
| **Accreditor:** | NELAP: New York, Department of Health Wadsworth Center |
| **Accreditation ID:** | 11815 |
| **Scope:** | Non-Potable Water; Solid and Hazardous Waste |
| **Accreditor:** | State of Connecticut, Department of Public Health, Division of Environmental Health |
| **Accreditation ID:** | PH-0263 |
| **Scope:** | Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA) |
| **Accreditor:** | NELAP: Texas, Commission on Environmental Quality |
| **Accreditation ID:** | T104704453-09-TX |
| **Scope:** | Non-Potable Water |
| **Accreditor:** | State of New Hampshire |
| **Accreditation ID:** | 299409 |
| **Scope:** | Non-potable water |
| **Accreditor:** | State of Georgia |
| **Accreditation ID:** | Chapter 391-3-26 |
| **Scope:** | As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC). |



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Phone: (412) 826-5245
Fax: (412) 826-3433

## SAMPLE SUMMARY

Workorder: 13724 680-106392-1 / VOPAK

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 137240001 | LAW-PZ-8R (680-106392-3) | Water | 10/17/2014 10:03 | 10/21/2014 11:00 |
| 137240002 | MW-29 (680-106392-15) | Water | 10/15/2014 17:51 | 10/21/2014 11:00 |
| 137240003 | MW-32 (680-106392-18) | Water | 10/17/2014 16:58 | 10/21/2014 11:00 |



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Fax: (412) 826-3433

# ANALYTICAL RESULTS

Workorder: 13724 680-106392-1 / VOPAK

Lab ID: **137240001** Date Received: 10/21/2014 11:00 Matrix: Water

Sample ID: **LAW-PZ-8R (680-106392-3)** Date Collected: 10/17/2014 10:03

| Parameters | Results | Units | PQL | MDL | DF | Prepared | By | Analyzed | By | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **RISK - MICR** | | | | | | | | | | |
| Analysis Desc: AM20GAX | | | Analytical Method: AM20GAX | | | | | | | |
| Methane | **8100** | ug/l | 0.10 | 0.042 | 1 | | | 10/30/2014 08:44 | GT | |
| Ethane | **61** | ug/l | 0.025 | 0.0020 | 1 | | | 10/30/2014 08:44 | GT | |
| Ethene | **67** | ug/l | 0.025 | 0.0030 | 1 | | | 10/30/2014 08:44 | GT | |
| Carbon Dioxide | **440** | mg/l | 5.0 | 0.36 | 1 | | | 10/30/2014 08:44 | GT | |
| Nitrogen | **8.9** | mg/l | 2.0 | 0.16 | 1 | | | 10/30/2014 08:44 | GT | |
| Carbon Monoxide | **1.0 U** | mg/l | 1.0 | 0.11 | 1 | | | 10/30/2014 08:44 | GT | |



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## ANALYTICAL RESULTS

Workorder: 13724 680-106392-1 / VOPAK

Lab ID: **137240002** Date Received: 10/21/2014 11:00 Matrix: Water

Sample ID: **MW-29 (680-106392-15)** Date Collected: 10/15/2014 17:51

| Parameters | Results | Units | PQL | MDL | DF | Prepared | By | Analyzed | By | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **RISK - MICR** | | | | | | | | | | |
| Analysis Desc: AM20GAX | | | Analytical Method: AM20GAX | | | | | | | |
| Methane | **7700** | ug/l | 0.10 | 0.042 | 1 | | | 10/29/2014 12:55 | GT | |
| Ethane | **2.0** | ug/l | 0.025 | 0.0020 | 1 | | | 10/29/2014 12:55 | GT | |
| Ethene | **230** | ug/l | 0.025 | 0.0030 | 1 | | | 10/29/2014 12:55 | GT | |
| Carbon Dioxide | **570** | mg/l | 5.0 | 0.36 | 1 | | | 10/29/2014 12:55 | GT | |
| Nitrogen | **8.3** | mg/l | 2.0 | 0.16 | 1 | | | 10/29/2014 12:55 | GT | |
| Carbon Monoxide | **1.0 U** | mg/l | 1.0 | 0.11 | 1 | | | 10/29/2014 12:55 | GT | |



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Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

## ANALYTICAL RESULTS

Workorder: 13724 680-106392-1 / VOPAK

Lab ID: 137240003 Date Received: 10/21/2014 11:00 Matrix: Water
Sample ID: MW-32 (680-106392-18) Date Collected: 10/17/2014 16:58

| Parameters | Results | Units | PQL | MDL | DF | Prepared | By | Analyzed | By | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **RISK - MICR** | | | | | | | | | | |
| Analysis Desc: AM20GAX | | | Analytical Method: AM20GAX | | | | | | | |
| Methane | **3000** | ug/l | 0.10 | 0.042 | 1 | | | 10/30/2014 08:57 | GT | |
| Ethane | **5.6** | ug/l | 0.025 | 0.0020 | 1 | | | 10/30/2014 08:57 | GT | |
| Ethene | **7.4** | ug/l | 0.025 | 0.0030 | 1 | | | 10/30/2014 08:57 | GT | |
| Carbon Dioxide | **330** | mg/l | 5.0 | 0.36 | 1 | | | 10/30/2014 08:57 | GT | |
| Nitrogen | **14** | mg/l | 2.0 | 0.16 | 1 | | | 10/30/2014 08:57 | GT | |
| Carbon Monoxide | **1.0 U** | mg/l | 1.0 | 0.11 | 1 | | | 10/30/2014 08:57 | GT | |



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# ANALYTICAL RESULTS QUALIFIERS

Workorder: 13724 680-106392-1 / VOPAK

## DEFINITIONS/QUALIFIERS

| | |
|---|---|
| Disclaimer : | The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAx, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods. |
| MDL | Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection. |
| PQL | Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation. |
| ND | Not detected at or above reporting limit. |
| DF | Dilution Factor. |
| S | Surrogate. |
| RPD | Relative Percent Difference. |
| % Rec | Percent Recovery. |
| U | Indicates the compound was analyzed for, but not detected at or above the noted concentration. |
| J | Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL). |



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Phone: (412) 826-5245
Fax: (412) 826-3433



## QUALITY CONTROL DATA

Workorder: 13724 680-106392-1 / VOPAK

QC Batch: DISG/4133 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 137240002

METHOD BLANK: 31233

| Parameter | Units | Blank Result | Reporting Limit | Qualifiers |
|---|---|---|---|---|
| RISK | | | | |
| Methane | ug/l | 0.10 U | 0.10 | |
| Ethane | ug/l | 0.025 U | 0.025 | |
| Ethene | ug/l | 0.025 U | 0.025 | |

METHOD BLANK: 31234

| Parameter | Units | Blank Result | Reporting Limit | Qualifiers |
|---|---|---|---|---|
| RISK | | | | |
| Carbon Dioxide | mg/l | 5.0 U | 5.0 | |
| Nitrogen | mg/l | 2.0 U | 2.0 | |
| Carbon Monoxide | mg/l | 1.0 U | 1.0 | |

LABORATORY CONTROL SAMPLE & LCSD: 31235 31237

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| RISK | | | | | | | | | | |
| Methane | ug/l | 750 | 720 | 800 | 97 | 108 | 80-120 | 11 | 20 | |
| Ethane | ug/l | 38 | 42 | 41 | 111 | 109 | 80-120 | 1.8 | 20 | |
| Ethene | ug/l | 35 | 39 | 38 | 111 | 108 | 80-120 | 2.7 | 20 | |

LABORATORY CONTROL SAMPLE & LCSD: 31236 31238

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| RISK | | | | | | | | | | |
| Carbon Dioxide | mg/l | 120 | 130 | 120 | 108 | 102 | 80-120 | 5.7 | 20 | |
| Nitrogen | mg/l | 140 | 130 | 130 | 96 | 97 | 80-120 | 1 | 20 | |
| Carbon Monoxide | mg/l | 2 | 2.0 | 2.1 | 103 | 104 | 80-120 | 0.97 | 20 | |



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Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433



## QUALITY CONTROL DATA

Workorder: 13724 680-106392-1 / VOPAK

QC Batch: DISG/4135 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 137240001, 137240003

METHOD BLANK: 31263

| Parameter | Units | Blank Result | Reporting Limit | Qualifiers |
|---|---|---|---|---|
| RISK | | | | |
| Methane | ug/l | 0.10 U | 0.10 | |
| Ethane | ug/l | 0.025 U | 0.025 | |
| Ethene | ug/l | 0.025 U | 0.025 | |

METHOD BLANK: 31264

| Parameter | Units | Blank Result | Reporting Limit | Qualifiers |
|---|---|---|---|---|
| RISK | | | | |
| Carbon Dioxide | mg/l | 5.0 U | 5.0 | |
| Nitrogen | mg/l | 2.0 U | 2.0 | |
| Carbon Monoxide | mg/l | 1.0 U | 1.0 | |

LABORATORY CONTROL SAMPLE & LCSD: 31265 31267

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| RISK | | | | | | | | | | |
| Methane | ug/l | 750 | 760 | 710 | 102 | 95 | 80-120 | 7.1 | 20 | |
| Ethane | ug/l | 38 | 42 | 42 | 112 | 111 | 80-120 | 0.9 | 20 | |
| Ethene | ug/l | 35 | 40 | 39 | 113 | 111 | 80-120 | 1.8 | 20 | |

LABORATORY CONTROL SAMPLE & LCSD: 31266 31268

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| RISK | | | | | | | | | | |
| Carbon Dioxide | mg/l | 120 | 120 | 120 | 104 | 107 | 80-120 | 2.8 | 20 | |
| Nitrogen | mg/l | 140 | 140 | 130 | 97 | 97 | 80-120 | 0 | 20 | |
| Carbon Monoxide | mg/l | 2 | 2.1 | 2.2 | 107 | 111 | 80-120 | 3.7 | 20 | |



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Phone: (412) 826-5245
Fax: (412) 826-3433

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 13724 680-106392-1 / VOPAK

| Lab ID | Sample ID | Prep Method | Prep Batch | Analysis Method | Analysis Batch |
|---|---|---|---|---|---|
| 137240002 | MW-29 (680-106392-15) | | | AM20GAX | DISG/4133 |
| 137240001 | LAW-PZ-8R (680-106392-3) | | | AM20GAX | DISG/4135 |
| 137240003 | MW-32 (680-106392-18) | | | AM20GAX | DISG/4135 |



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**TestAmerica Savannah**
5102 LaRoche Avenue
Savannah, GA 31404
Phone (912) 354-7858 Fax (912) 352-0165

13724

# Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

10/31/2014

| Client Information (Sub Contract Lab) | Sampler: | Lab PM: Hoffman, Sheila B | Carrier Tracking No(s): | COC No: 680-362953.1 |
|---|---|---|---|---|
| Client Contact: Shipping/Receiving | Phone: | E-Mail: sheila.hoffman@testamericainc.com | | Page: Page 1 of 1 |
| Company: Pace Analytical Services, Inc. | | | | Job #: 680-106392-1 |
| Address: 220 William Pitt Way, | Due Date Requested: 10/29/2014 | | | |
| City: Pittsburgh | TAT Requested (days): | | | |
| State, Zip: PA, 15238 | | | | |
| Phone: 412-826-5245(Tel) | PO #: | | | |
| Email: | WO #: | | | |
| Project Name: VOPAK, Savannah | Project #: 68013507 | | | |
| Site: | SSOW#: | | | |

**Analysis Requested**

**Preservation Codes:**

| | |
|---|---|
| A - HCL | M - Hexane |
| B - NaOH | N - None |
| C - Zn Acetate | O - AsNaO2 |
| D - Nitric Acid | P - Na2O4S |
| E - NaHSO4 | Q - Na2SO3 |
| F - MeOH | R - Na2S2SO3 |
| G - Amchlor | S - H2SO4 |
| H - Ascorbic Acid | T - TSP Dodecahydrate |
| I - Ice | U - Acetone |
| J - DI Water | V - MCAA |
| K - EDTA | W - ph 4-5 |
| L - EDA | Z - other (specify) |

Other:

| | Sample Identification - Client ID (Lab ID) | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | SUB (Methane, Ethane, & Ethene (MEE))/ Methane, Ethane, & Ethene (MEE) | SUB (Carbon Dioxide, Nitrogen, & Monoxide)/ Carbon Dioxide, Nitrogen, & Monoxide | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Preservation Code: | | | | | | | |
| 1 | LAW-PZ-8R (680-106392-3) | 10/17/14 | 10:03 Eastern | | Water | | | X | X | 2 | |
| 2 | MW-29 (680-106392-15) | 10/15/14 | 17:51 Eastern | | Water | | | X | X | 2 | |
| 3 | MW-32 (680-106392-18) | 10/17/14 | 16:58 Eastern | | Water | | | X | X | 2 | |

Possible Hazard Identification
Unconfirmed

4.2°C

Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

| Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: | | | | |
|---|---|---|---|---|---|---|---|
| Relinquished by: | Date/Time: 10/20/14 11:00 | Company | Received by: PAES | Date/Time: 10.21.14 1100 | Company PAES | | |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company | | |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company | | |

| Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: |
|---|---|---|

# Cooler Receipt Form

Client Name: TA Savannah Project: 680-106392-1 Lab Work Order: 13729

A. Shipping/Container Information (circle appropriate response)

Courier: (FedEx) UPS USPS Client Other:_____ Air bill Present: (Yes) No

Tracking Number: 4598 9409 3593

Custody Seal on Cooler/Box Present: (Yes) No Seals Intact: (Yes) No

Cooler/Box Packing Material: (Bubble Wrap) Absorbent Foam Other:_____

Type of Ice: (Wet) Blue None Ice Intact: (Yes) Melted

Cooler Temperature: 4.2°C Radiation Screened: Yes (No) Chain of Custody Present: (Yes) No

Comments:_____

B. Laboratory Assignment/Log-in (check appropriate response)

| | YES | NO | N/A | Comment Reference non-Conforman |
|---|---|---|---|---|
| Chain of Custody properly filled out | ✓ | | | |
| Chain of Custody relinquished | ✓ | | | |
| Sampler Name & Signature on COC | | ✓ | | |
| Containers intact | ✓ | | | |
| Were samples in separate bags | ✓ | | | |
| Sample container labels match COC Sample name/date and time collected | ✓ | | | |
| Sufficient volume provided | ✓ | | | |
| Microseeps containers used | ✓ | | | |
| Are containers properly preserved for the requested testing? (as labeled) | ✓ | | | |
| If an unknown preservation state, were containers checked? Exception: VOA's coliform | | | ✓ | If yes, see pH form. |
| Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container? | | | ✓ | |

Comments:_____

Cooler contents examined/received by: LY Date: 10.22.14

Project Manager Review: AK Date: 10/24/14

Serial Number 88494

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING


TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165


Alternate Laboratory Name/Location
Phone:
Fax:

| | | | |
|---|---|---|---|
| PROJECT REFERENCE: VOPAK, Savannah | PROJECT NO.: 390020 | PROJECT LOCATION (STATE): GA | |
| TAL (LAB) PROJECT MANAGER: Sheila Hoffman | P.O. NUMBER: 901304 | CONTRACT NO.: — | |
| CLIENT (SITE) PM: Alan Sanders | CLIENT PHONE: 7707727100 | CLIENT FAX: — | |
| CLIENT NAME: EIC | CLIENT E-MAIL: asanders@eicusa.com | | |
| CLIENT ADDRESS: 161 Kimball Bridge Rd Alpharetta GA 30009 | | | |
| COMPANY CONTRACTING THIS WORK (if applicable): — | | | |

PAGE 1 OF 3

STANDARD REPORT DELIVERY ●
DATE DUE 10/31/14
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE —
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRELIMINARY

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | COMPOSITE (C) OR GRAB (G) | AQUEOUS (WATER) | SOLID OR SEMISOLID | AIR | NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | 8260B HCl | 9056A nne | 310/1 Alkalinity nne | 9034 Sulfide acetate NaOH | 9060A-TOC Sulfuric acid | 6010C-Iron HNO3 | MEE (methane, ethane, ethene) BAK and/or BAK cool | CO2, N, CO BAK cool | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/17/14 | 11:27 | IW-1R | G | ✓ | | | | ✓3 | | | | | | | | |
| 10/17/14 | 8:32 | IW-1S | G | ✓ | | | | ✓3 | | | | | | | | |
| 10/17/14 | 10:03 | LAW-PZ-8R | G | ✓ | | | | ✓3 | 1✓ | 1✓ | 2✓ | 3✓ | 1✓ | 1✓ | 1✓ | |
| 10/13/14 | 16:32 | MW-14 | G | ✓ | | | | ✓3 | | | | | | | | |
| 10/13/14 | 18:04 | MW-16 | G | ✓ | | | | ✓3 | | | | | | | | |
| 10/16/14 | 17:35 | MW-17R | G | ✓ | | | | ✓3 | | | | | | | | |
| 10/14/14 | 13:09 | MW-18R | G | ✓ | | | | ✓3 | | | | | | | | |
| 10/13/14 | 14:15 | MW-19 | G | ✓ | | | | ✓3 | | | | | | | | |
| 10/14/14 | 11:23 | MW-24R | G | ✓ | | | | ✓3 | [illegible] | [illegible] | | | | | | |
| 10/13/14 | 12:06 | MW-23 | G | ✓ | | | | ✓3 | | | | | | | | |
| 10/13/14 | 10:17 | MW-25 | G | ✓ | | | | ✓3 | | | | | | | | |
| 10/15/14 | 16:30 | MW-26R | G | ✓ | | | | ✓3 | | | | | | | | |

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUIS |
|---|---|---|---|---|---|---|
| [signature] | 10/17/14 | 20:03 | | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED |
| [signature] | 10/17/14 | 2003 | | | | |

680-106392 Chain of Custody

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| [signature] | 10/18/14 | 0750 | YES ○ NO ○ | | 680 106392 | 3.6°C |

TAL8240-680 (1008)

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10/31/2014

Serial Number 89900

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING


**TestAmerica Savannah**
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165


Alternate Laboratory Name/Location
Phone:
Fax:

| | | |
|---|---|---|
| PROJECT REFERENCE: VOPAK Savannah | PROJECT NO.: 390020 | PROJECT LOCATION (STATE): GA |
| TAL (LAB) PROJECT MANAGER: Sheila Hoffman | P.O. NUMBER: 901304 | CONTRACT NO. |
| CLIENT (SITE) PM: Alan Sanders | CLIENT PHONE: 770-772-7100 | CLIENT FAX |
| CLIENT NAME: EIC | CLIENT E-MAIL: asanders@eicusa.com | |
| CLIENT ADDRESS: 161 Kimball Bridge Rd Alpharetta GA 30009 | | |
| COMPANY CONTRACTING THIS WORK (if applicable) | | |

PAGE 2 OF 3

STANDARD REPORT DELIVERY — DATE DUE 10/31/14

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯ — DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE | AQUEOUS (WATER) | SOLID OR SEMISOLID | AIR | NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | NUMBER OF CONTAINERS SUBMITTED | 8260B HCl | 9056A non | 310.1 Alkalinity non | 9034 Sulfide zinc acetate | 9060A-TOC sulfuric acid | 6010C-Iron $HNO_3$ | MEE(methane,...) BAK | $CO_2$, N, CO BAK | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/13/14 | 10:26 | MW-27 | G | ✓ | | | | 3 | | | | | | | | | | | | |
| 10/17/14 | 14:32 | MW-28 | G | ✓ | | | | 3 | | | | | | | | | | | | |
| 10/15/14 | 17:51 | MW-29 | G | ✓ | | | | 3 | 1 | 1 | 2 | 3 | 1 | 1 | 1 | | | | | |
| 10/15/14 | 11:16 | MW-30 | G | ✓ | | | | 3 | | | | | | | | | | | | |
| 10/13/14 | 11:14 | MW-31 | G | ✓ | | | | 3 | | | | | | | | | | | | |
| 10/17/14 | 16:58 | MW-32 | G | ✓ | | | | 3 | 1 | 1 | 2 | 3 | 1 | 1 | 1 | | | | | |
| 10/14/14 | 17:02 | MW-33 | G | ✓ | | | | 3 | | [redacted] | | | | | | | | | | |
| 10/16/14 | 12:39 | MW-34 | G | ✓ | | | | 3 | | | | | | | | | | | | |
| 10/16/14 | 16:24 | MW-35 | G | ✓ | | | | 3 | | | | | | | | | | | | |
| 10/17/14 | 16:08 | MW-36 | G | ✓ | | | | 3 | | | | | | | | | | | | |
| 10/16/14 | 13:46 | MW-37 | G | ✓ | | | | 3 | | | | | | | | | | | | |
| 10/15/14 | 14:17 | PAN-MW-9 | G | ✓ | | | | 3 | | | | | | | | | | | | |

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| | 10/17/14 | 20:03 | | | | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| | 10/17/14 | 2003 | | | | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| | 10/18/14 | 0750 | YES ◯ NO ◯ | | 680 106392 | 3.6°C |

TAL8240-680 (1008)

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10/31/2014

Serial Number 89901

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING


**TestAmerica Savannah**
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165


Alternate Laboratory Name/Location
Phone:
Fax:

| PROJECT REFERENCE | PROJECT NO. | PROJECT LOCATION (STATE) |
|---|---|---|
| VOPAK Savannah | 390020 | GA |
| TAL (LAB) PROJECT MANAGER | P.O. NUMBER | CONTRACT NO. |
| Sheila Hoffman | 901304 | |
| CLIENT (SITE) PM | CLIENT PHONE | CLIENT FAX |
| Alan Sanders | 770-772-7100 | |
| CLIENT NAME | CLIENT E-MAIL | |
| EIC | asanders@eicusa.com | |
| CLIENT ADDRESS | | |
| 161 Kimball Bridge Rd Alpharetta GA | | |
| COMPANY CONTRACTING THIS WORK (if applicable) | | |

PAGE 3 OF 3

STANDARD REPORT DELIVERY ●
DATE DUE 10/31/14
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE | AQUEOUS (WATER) | SOLID OR SEMISOLID | AIR | NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | REQUIRED ANALYSIS: 8260B | PRESERVATIVE: HCl | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/14 | 10:00 | PAN-MW-10 | G | ✓ | | | | 3 | | |
| — | — | Trip Blank | | ✓ | | | | 2 | | |

NUMBER OF CONTAINERS SUBMITTED

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| | 10/17/14 | 20:03 | | | | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| | 10/17/14 | 2053 | | | | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| | 10/18/14 | 0750 | YES ○ NO ○ | | 680 106392 | 3.6° |

TAL8240-680 (1008)

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10/31/2014

# Login Sample Receipt Checklist

Client: Environmental International Corporation

Job Number: 680-106392-1

**Login Number: 106392**

**List Source: TestAmerica Savannah**

**List Number: 1**

**Creator: Banda, Christy S**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | N/A | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

# Certification Summary

Client: Environmental International Corporation
Project/Site: VOPAK, Savannah

TestAmerica Job ID: 680-106392-1

## Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| Georgia | State Program | 4 | N/A | 06-30-15 |
| Georgia | State Program | 4 | 803 | 06-30-15 |

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# SEVENTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT C

# Environmental International Corporation

## Time by Job Summary

### August 2014 through January 2015

| TASKS | Aug 14 | Sep 14 | Oct 14 | Nov 14 | Dec 14 | Jan 15 | TOTAL |
|---|---|---|---|---|---|---|---|
| 390000- VOPAK:390020 - VTSI Quarterly MNA GW Sampling | 35 | 7 | 166 | 99 | 1 | 25 | 332 |
| 390000- VOPAK:390025 - Semi-annual report for VTSI | 52 | 0 | 0 | 12 | 4 | 14 | 82 |
| **TOTAL** | **87** | **7** | **166** | **111** | **5** | **38** | **415** |

HSI SITE NO. 10464, PCE REMEDIATION, VOPAK TERMINAL SAVANNAH

# COMPLIANCE STATUS REPORT

## Exhibit E:
## Eighth VIRP Semi-annual Progress Report

(Included on Enclosed CD)

**Environmental International Corporation**
161 Kimball Bridge Road, Suite 100, Alpharetta, GA 30009
Phone: 770-772-7100, Fax: 770-772-0555
Website:www.eicusa.com

August 28, 2015

Mr. Jason Metzger
Georgia Department of Natural Resources
Environmental Protection Division
Response and Remediation Program
2 Martin Luther King, Jr. Drive, S.E.
Suite 1054 East Tower
Atlanta, Georgia 30334-9000

**Subject:** **Eighth VIRP Semi-annual Progress Report**
**VOPAK Terminal Savannah**
**HSI Site No. 10464**
**Turner and Hart Street, Savannah, Chatham County, Georgia**
**Tax Parcel: 1-0618-01-003L**

Dear Mr. Metzger:

On behalf of VOPAK Terminal Savannah, Inc. Environmental International Corporation (EIC) is pleased to submit the attached Eighth VIRP Semi-annual Progress Report for the above referenced site.

Enclosed are the following:

1. One signed and sealed certification page for the Semiannual Report.
2. One bound paper copy of the Eighth VIRP Semi-annual Progress Report.
3. Two Compact Discs each with the report in searchable PDF format.

If you have any questions regarding this submittal, please contact Mr. Branden Jones of VOPAK at 912-964-1811 extn. 10114, or me at the above location.

Sincerely,
ENVIRONMENTAL INTERNATIONAL CORPORATION

Raj Mahadevaiah, P.E., C.G.W.P.
President & CEO

Cc: Branden Jones, VOPAK
Chris Novack, GPA

**CERTIFICATION AND SUPPORTING DOCUMENTATIONS**
**Eighth VIRP Semi-annual Progress Report**
**VOPAK Terminal Savannah**
**HSI Site No. 10464**
**August 28, 2015**

*"I certify under penalty of law that the accompanying report referenced above and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.*

*Furthermore, to document my direct oversight of the Voluntary Investigation and Remediation Plan (VIRP) development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.*

*The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

Basavaraj Mahadevaiah, GA PE No. 23198
Environmental International Corporation
770-772-7100, ext. 223

8/28/15
Date

GEORGIA REGISTERED No. 23198 PROFESSIONAL ENGINEER BASAVARAJ MAHADEVAIAH

Signature and Stamp

PCE REMEDIATION, HSI SITE 10464, VOPAK TERMINAL SAVANNAH
SAVANNAH, GEORGIA

# EIGHTH VIRP SEMI-ANNUAL PROGRESS REPORT

---

Friday, August 28, 2015

Submitted To:
**GEORGIA ENVIRONMENTAL PROTECTION DIVISION**
Georgia Department of Natural Resources
Environmental Protection Division
Response and Remediation Program
Suite 1054 East Tower
2 Martin Luther King Jr. Drive, S.E.
Atlanta, Georgia 30334

Prepared for:
**VOPAK TERMINAL SAVANNAH**
P.O. Box 7390
Savannah, Georgia 31418-7390

Prepared by:
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SECTION

1

# 1.0 INTRODUCTION

On behalf of VOPAK Terminal Savannah, Inc. (VOPAK), Environmental International Corporation (EIC) is pleased to submit the Eighth VIRP Semi-annual Progress Report for review by the Georgia Environmental Protection Division Response and Remediation Program (EPD). This report was prepared as specified in the April 2, 2011 "Revised Voluntary Investigation and Remediation Plan (VIRP) and Application" that was approved by the EPD on August 31, 2011 under the Voluntary Remediation Program (VRP) (EIC, 2011a).

## 1.1 Primary Objectives

The primary objective of this report is to present a compilation of tasks completed and findings determined by EIC during the six-month period from March 2015 through August 2015. This report documents the following subjects:

- Responses to the July 29, 2015 EPD comment letter
- Revision of the Site Conceptual Model
- Further evaluation of COC trends
- Evaluation MNA goals and the development of a remedial strategy

The following sections describe each task related to these subjects.

SECTION

2

# 2.0 EPD COMMENT LETTERS

## 2.1 EPD Comment Letter dated July 29, 2015

EIC received a copy of the July 29, 2015 EPD comment letter from VOPAK on August 4, 2015 and has prepared the following responses on behalf of VOPAK.

### 2.1.1 EPD Comment 1

*EPD concurs that natural attenuation is occurring at the site and that data collected after enrollment in the VRP has expanded the known footprint of the plume. However, we do not agree that this is the reason that the property will not meet Type 1 through 4 RRS within the 5-year timeframe, as implied in Section 5.3 of the Report. Since enrollment, EPD has indicated that meeting these cleanup goals within the prescribed timeframe was unlikely based on data from wells such as LAW-PZ-8R, MW-29, and PAN-MW-9, all of which have been sampled consistently before and after enrollment. EPD expects the forthcoming report(s) to evaluate the VIRP timeline, consider alternatives to reach risk reduction standards (RRS), and provide a final remediation plan, such as active corrective action or certification to Type 5 RRS with Uniform Environmental Covenants (UECs) to address exposure pathways. EPD is eager to work with VOPAK in developing a path to certification.*

**Response to EPD Comment 1:**

VOPAK understands that natural attenuation alone may be insufficient in reaching the RRS within the 5-year time frame. Referring to the April 2015 groundwater analytical data, however, it is apparent that the CVOC plume has substantially reduced in size at the leading edge. Consequently, CVOCs in only MW-29 appear to be recalcitrant – but at very low ppbs. VOPAK will review analytical data from the next sampling event - scheduled for October 2015 - to verify whether the areal extent of the CVOC is further reduced. Based on that finding, VOPAK will evaluate the need for contingency remedial measures for localized

treatment, request a time extension to reach remedial end points, or explore Type 5 RRS with UECs to address exposure pathways.

### 2.1.2 EPD Comment 2

*EPD has previously noted concern over the possibility that contaminated groundwater is discharging to the Savannah River (or the Tidal Flat) as a pathway that could create ecological risks associated with concentrations in surface water or sediment. There is no groundwater data available for the small area between two higher concentration monitoring wells (MW-32 and PAN-MW-9) and the Tidal Flat, and thus no evidence that contaminated groundwater is not discharging to the Tidal Flat. Additionally, Figure 4-6 and 4-7 indicate two discrete plumes of DCE and VC, respectively, at these wells and MW-16, though there is no evidence that these plumes are not connected. Additional monitoring well(s) or sediment sampling may be necessary to better delineate the plume and characterize ecological risks.*

**Response to EPD Comment 2:**

As discussed in the updated site conceptual model (Appendix A), it appears that the area previously presumed to be a tidal flat in previous maps is actually a narrow area that functions as a drainage channel or an inlet depending on the river tides. The retaining wall (labeled on the site figures as a concrete bulkhead) equipped with a sluice gate and the tides in the Savannah River affect the fluid flow hydrodynamics in this localized area. EIC is currently compiling additional supporting material from various sources to substantiate this finding. As stated in the aforementioned EIC's response to EPD Comment 1, the CVOC plume has also substantially reduced in size at the leading edge. Consequently, EIC is developing a detailed work plan to evaluate whether potential ecological risks are present from the contaminated groundwater that may migrate to the Savannah River. Prior to the preparation of a work plan, EIC proposes a meeting with EPD to discuss the plan objectives and scope of work.

### 2.1.3 EPD Comment 3

*EPD anticipates reviewing VOPAK's assessment of potential preferential flow through utility trenches, such as the large stormwater conveyance pipe discharging to the Tidal Flat near MW-32, as well as the hydraulic and transport evaluation of the sheet pile wall.*

**Response to EPD Comment 3:**

As noted in the updated site conceptual model (Appendix A), EIC has provided detailed schematics of the retaining wall and other related substructures. In addition, VOPAK is evaluating the feasibility of performing a flow-net analysis to determine fluid flow pathways.

### 2.1.4 EPD Comment 4

*EPD anticipates reviewing the forthcoming vapor intrusion study, indicated to assess potential risks to existing and potential future structures as well as an assessment of potential risks to construction workers in areas of shallow groundwater. Risks to construction workers are associated with incidental contact and possible ingestion of contaminated groundwater during subsurface work. Any risks associated with these pathways will need to be addressed in an institutional control.*

**Response to EPD Comment 4:**

A work plan for vapor intrusion study to evaluate the potential risks to structures and construction workers is currently under preparation. VOPAK will submit the plan to EPD for concurrence of the scope of work. Upon EPD approval, VOPAK will complete the study and submit the results in a subsequent semiannual report.

SECTION

3

# 3.0 SITE CONCEPTUAL MODEL

VOPAK Terminal Savannah, Inc. (VOPAK) submitted a preliminary site conceptual model (SCM) of the area affected by a tetrachloroethene/perchloroethene (PCE) plume as a part of the VIRP. A SCM is typically updated as additional material is progressively gained during the implementation of the VIRP.

In the Sixth VIRP Semi-annual Progress Report submitted on August 29, 2014 (EIC, 2014), VOPAK included a revised SCM. Subsequently, EIC has compiled additional data to further define the site characteristics and potential fluid flow hydrodynamics. The updated SCM is included as Appendix A. In Preparing the 2015 SCM Report, EIC made significant revisions to the groundwater hydrology section of the 2014 SCM Report regarding fluid flow hydrodynamics, COC plume delineation, and COC concentration trend analysis.

SECTION

4

# 4.0 GROUNDWATER MONITORING

The semi-annual groundwater monitoring (sampling) event documented in this section was conducted from March 30, to April 2, 2015. This was the second semi-annual sampling event of the VIRP program following EPD's approval of semi-annual sampling, as opposed to quarterly sampling that EIC previously conducted at the site.

The sampling event entailed the collection of groundwater samples, for laboratory analysis of constituents (or contaminants) of concern (COCs), from wells within the previously established area of concern. COCs that EIC monitored included dissolved chlorinated volatile organic compounds (CVOCs) and volatile organic compounds (VOCs) contamination.

During this event, all available monitoring wells and two selected former injection wells within and adjacent to the CVOC/VOC contaminant plumes were utilized for groundwater sampling. Accordingly, EIC collected groundwater samples for CVOC/VOC analysis from a total of 25 wells.

The analytical data from the March/April 2015 sampling event was compared to the first quarterly sampling event (EIC, 2011b) and all other subsequent sampling events (EIC, 2012a, 2012b, 2012c, 2012d, 2013a, 2013b, 2013c, 2014a, 2014b, and 2015) to track prevailing contaminant concentration trends. A statistical analysis of these trends is documented in the 2015 Site Conceptual Model (SCM) Report, submitted as Appendix A of this report.

The following subsections describe the results of the seventh groundwater monitoring event.

## 4.1 Groundwater Monitoring Objective

During the March/April 2015 groundwater monitoring event, the primary objective was to meet the following goals set forth in the VIRP.

- Review plume stability.
- Track natural attenuation of COCs by monitoring the groundwater concentrations of VOCs/CVOCs within the existing plume.
- Determine if the prevailing groundwater contaminant concentrations meet or are trending towards meeting the established RRS.
- Determine if the horizontal and vertical extents of the COC on all impacted properties have been and remain defined, respectively.
- Determine if conditions throughout the plume promote natural attenuation.

The following sections outline the tasks performed by EIC to meet this objective.

## 4.2 Groundwater Monitoring Field Program

During the March/April 2015 groundwater monitoring event, EIC conducted groundwater monitoring utilizing 22 shallow monitoring wells, two shallow injection wells, and one deep monitoring well. The site layout is illustrated in Figure 4-1. The following sub-sections describe EIC's technical approach regarding this event.

### 4.2.1 Sampling Protocol

The groundwater sampling program was conducted in accordance with the current U.S. Region 4 EPA groundwater sampling procedure "Field Branches Quality System and Technical Procedures" (FBQSTP) per EPD regulations. Each monitoring well was gauged, purged, and sampled following the "low-flow" purge technique established in the standard operating procedure (SOP) SESDPROC-301-R3 under the FBQSTP (EPA, 2013).

### 4.2.2 Site Access

Prior to EIC's site visit, EIC coordinated with the Georgia Ports Authority (GPA) and GAF Materials Corp. (GAF) in gaining access during the sampling event to collect groundwater samples from a total of seven off-site monitoring wells consisting of MW-17R, MW-28, MW-32, MW-34, MW-35, MW-36, and MW-37. Monitoring wells MW-28 and MW-37 are located on GAF property and wells MW-17R, MW-32, MW-34, MW-35, and MW-36 are located on GPA property.

### 4.2.3 Groundwater Gauging

Prior to sampling, EIC gauged each well with a Solinst Model 122 interface meter ("oil/water interface probe") to determine the static depth to groundwater. The gauging data is tabulated in Table 4-1. In preparing this table, EIC utilized top-of-casing (TOC) elevations from the multiple well surveys to calculate the groundwater elevation data regarding this event. From Table 4-1, EIC noted that, while gauging IW-1R, the oil/water interface probe detected a light non-aqueous phase liquid (LNAPL). Upon retrieval of the probe, EIC observed a clear oily substance which resembled the lactate injection fluid that had been previously utilized at the site. The LNAPL was evacuated from the well via hand-bailing, the groundwater level was allowed to equilibrate, and EIC then gauged the well again prior to sampling.

### 4.2.4 Groundwater Sampling Field Procedures

Prior to EIC initiating field sampling activities, EIC obtained a 55-gallon drum from VOPAK to containerize purged groundwater. During the March/April 2015 event, the 55-gallon drum was placed on the west shoulder of the Hart Street, which lies between Tank Farm #2 and Tank Farm #3, near well MW-27. EIC placed a non-hazardous waste label on the drum and marked the contents on it as investigative derived waste ("IDW") well purge water and the accumulation date with a black permanent marker. The drum was later disposed of by VOPAK.

At each well-head designated for sampling, EIC monitored VOC air concentrations in parts per million (ppm) with a calibrated photoionization detector. A total of three measurements were taken at each well to document VOC concentrations in the ambient air within two feet of and outside the outer well casing, air between the inner well casing and the outer protective casing or vault, and air within the inner well casing once the well cap was removed. The VOC concentrations observed during the second quarter of 2014 were recorded on EIC's March/April 2015 EIC Well Purging and Sampling Data Field Logs (Attachment A).

EIC followed the "low-flow" purge technique, noted in Section 4.2.1, to conduct all groundwater sampling. EIC used a peristaltic pump with disposable 1/4-inch ID Teflon-lined tubing and a 6-inch segment of 3/16-inch ID silicon tubing at the pump head to purge each well until groundwater quality parameters reached stabilization prior to sampling. The length of Teflon-tubing necessary to place the intake at the center of the wetted screened interval was determined from water levels and available well construction data noted in EIC well purging and sampling data field logs (Attachment A).

Groundwater stabilization parameters were monitored via direct pumping to a multi-parameter field water quality field meter equipped with a flow-through cell. These parameters were recorded at approximately five minute intervals on EIC field logs (Attachment A). Additionally, purge volumes and depth-to-water (DTW) measurements were recorded at the same five-minute intervals when

possible. At each well, the pumping rate and tubing depth were adjusted accordingly if excessive drawdown was observed. In 1-inch and ¾-inch diameter wells, where downhole assembly constricted the access for the interface probe, the depth to water could not be gauged during purging. In these wells gauging was performed only just prior to inserting the tubing and immediately after the tubing was removed.

EIC considered that stabilization was reached when 3 consecutive stabilization parameter readings were within ± 0.1 for pH and ± 5% for specific conductivity. Reasonable attempts were made at each well to reach 0.2 mg/L dissolved oxygen (DO) and a turbidity reading below 10 Nephelometric Turbidity Units (NTUs) prior to sampling. Groundwater quality field parameters (Temperature, pH, oxygen reduction potential (ORP), conductivity, turbidity, and DO) after stabilization and prior to sample collection are summarized in Table 4-3. Note, however, that during the March/April 2015 sampling event, the turbidity levels at 9 wells could not be lowered below 10 NTUs and the DO levels could not be lowered below 0.2 mg/L at any of the wells sampled. All samples were collected using the "soda straw method" specified in SOP SESDPROC-301-R3.

### 4.2.5 Sample Custody and Laboratory Analysis

Immediately after each sample set was collected, the sample bottles were sealed and labeled in the field. Each sample set was then placed in padded sealable plastic bags to prevent breakage and stored with ice in insulated cooler containers provided by the laboratory. Complete and signed chain of custody forms accompanied all samples. EIC delivered and relinquished the samples to Test America Laboratories, a Georgia-certified laboratory located in Savannah, Georgia, prior to returning to EIC headquarters.

The laboratory conducted analysis of volatile organic compounds via EPA method 8260B. The laboratory report for the March/April 2015 event is included as Attachment B. The results of COC analysis of samples collected during this event, along with historical COC analytical data, are summarized in Table 4-4.

## 4.3 Quality Assurance and Quality Control

For quality assurance and quality control purposes during the groundwater sampling process, EIC submitted one trip blank set, provided by the laboratory, with each sample container with CVOC/VOC samples for analysis via EPA Method 8260B. The trip blanks were kept in the same thermal cooler as the collected CVOC/VOC samples over the entire period these samples were in the cooler until they were relinquished to the laboratory along with the CVOC/VOC samples.

To prevent cross-contamination, new disposable 1/4-inch inner diameter and 3/8-inch outer diameter Teflon-lined tubing was used to collect samples at each well, which was later properly disposed of. EIC's oil/water interface meter, 2,000 mL cylinder, and Teflon tubing cutter were field decontaminated prior to use and between sampling locations by washing with a phosphate-free detergent solution and rinsing with pressurized de-ionized (DI) water. After each sample was collected, the water quality parameters instrument was also decontaminated with DI water.

## 4.4 Data Evaluation

EIC conducted an evaluation of the data compiled from field measurements and laboratory analyses to determine the groundwater potentiometric surface, the horizontal and the vertical extent of the prevailing contaminant plumes based on the March/April 2015 monitoring event. Data from the sampling event was compared with the data from the baseline and each of the eleven subsequent quarterly sampling events to develop a strategy to reach remedial end points.

### 4.4.1 Groundwater Potentiometric Map

Table 4-5 tabulates the historical groundwater elevations for all gauging events at the site since groundwater monitoring was initiated under the VIRP. From this table, it is apparent that during the March/April 2015 gauging event, the overall potentiometric surface was similar in elevation to the previous two March/April gauging events. In general, the potentiometric surface elevation at the site during the March/April 2015 event was slightly above the global average groundwater elevation. As compared to the previous March/April gauging events, the average groundwater potentiometric surface elevation for the 2015 gauging event was neither the highest nor lowest observed since the inception of the VIRP program.

Figure 4-2 illustrates the March/April 2015 potentiometric surface map. Referring to Figure 4-2, the prevailing groundwater flow direction in the vicinity of the COC plume footprint remains from the southwest to the northeast. Of note, in this potentiometric surface contains an anomaly in the area of well MW-32. The groundwater elevation measured during the March/April event was the highest ever recorded at MW-32 since the approval of the VIRP.

### 4.4.2 Horizontal Extent of COC Plumes

Figure 4-3 illustrates a summary of the analytical results of the monitored COCs from the March/April 2015 sampling event for each well sampled. Figures 4-4 through 4-11 illustrate each of the eight monitored COC plumes. Table 4-4 lists a compilation of available analytical results since September 1997. The following sub-sections describe a spatial and temporal analysis of the COC plumes.

#### 4.4.2.1 CVOC Plume

The CVOC plume consists of Perchloroethylene (PCE), Trichlorethylene (TCE), Cis-1, 2 Dichloroethylene (DCE), and Vinyl Chloride (VC). Based on current analytical results, it is apparent that the overall extent and concentration of the CVOC plume at the site has significantly decreased since the inception of the VIRP sampling program in October 2011. However, residual CVOC contamination is present in certain areas. The following subsections describe spatial and temporal changes of individual CVOC constituents since October 2011.

**PCE Plume:**

Figure 4-4 illustrates the horizontal extent of the PCE plume during the March/April 2015 sampling event. The current PCE plume is composed of two distinctly separated areas of contamination, with the peak concentration of the first area centered near IW-1R at the up-gradient southwestern end of the original CVOC plume footprint, and the peak concentration of the second area centered near MW-29 near the down-gradient northeastern end of the original CVOC plume footprint.

Within the up-gradient portion of the original CVOC plume footprint, the peak PCE concentration in IW-1R increased from 170 µg/L to 310 µg/L from October 2014 to March/April 2015 respectively. However, no significant changes in concentrations at the surrounding wells were observed. It is noteworthy that in April 2014 the concentration at IW-1R was also found to be 310 µg/L.

Within the down-gradient portion of the original CVOC plume footprint, the overall extent and concentrations in this area has fluctuated since the first VIRP sampling event in October 2011, however, overall there has been a decreasing concentrations trend. In particular, the PCE concentration at MW-32 has sharply decreased from 1,900 µg/L to below laboratory method detection limits (MDLs) from October 2014 to March/April 2015, respectively. However, during the same time interval, the PCE concentration slightly increased in MW-29 from 74 µg/L to 160 µg/L.

In summary, the overall extents of the PCE plume have reduced substantially or remained stable over time and concentrations are decreasing and trending towards RRS values. Clearly, MNA is effective in reducing the PCE mass concentrations especially at the leading edge.

**TCE Plume:**

Figure 4-5 illustrates the horizontal extent of the TCE plume during the March/April 2015 sampling event. Similar to the PCE footprint, the TCE plume is also composed of two distinct areas of contamination. The up-gradient area of peak concentration is centered near IW-1R. The areal extent of PCE in this area reduced slightly since the October 2014 sampling event and the PCE concentration

in IW-1R reduced from 190 µg/L to 150 µg/L. There were also other slight reductions in concentration near the adjacent monitoring wells, such as at wells IW-18 and MW-37 and the down-gradient well MW-33. These reductions effectively split the TCE plume into two pockets of plume.

In April 2015, the peak concentration of down-gradient TCE plume was centered near well MW-29. This area of the plume had a significant reduction in concentration and horizontal extent as compared to the previous October 2014 and other previous sampling events. The most significant areas of reduction occurred near wells MW-32 and PAN-MW-9. The TCE concentrations MW-32 and PAN-MW-9 reduced from 680 and 35 µg/L to <0.48 and 4.9 µg/L respectively. However, concentrations increased in MW-29 from 55 to 90 µg/L.

In summary, the overall extents of the TCE plume have reduced or remained stable over time and concentrations are decreasing and trending towards RRS values. Considering that TCE is produced from the reductive dechlorination of PCE, substantial reduction in concentration relative to the original foot-print is indicative that MNA is effective in reducing the TCE concentrations.

**DCE Plume:**

Figure 4-6 illustrates the horizontal extent of the DCE plume during the March/April 2015 sampling event. During the March/April 2015 event the DCE concentration in LAW-PZ-8R decreased significantly from 15,000 µg/L in October 2014 to 4,100 µg/L. The concentrations near the up-gradient portion of the DCE plume have been decreasing significantly over time and the DCE concentrations measured during March/April 2015 indicate a continuation of that trend.

The overall plume extent had significant decreases in concentration since the October 2014 and previous sampling events as well; such as near wells IW-1R, IW-18, MW-24R, and MW-32. It is notable that the concentration near MW-32 was below MDLs for DCE during the March/April 2015 sampling event.

In summary, the overall extent of the DCE plume has reduced or has remained stable over time and concentrations are decreasing and trending towards RRS values. Considering that DCE is a second step daughter product from the reductive dechlorination of PCE, substantial reduction in concentration relative to the original footprint is indicative that the MNA is effective in reducing the DCE concentrations.

**VC Plume:**

Figure 4-7 illustrates the horizontal extent of the VC plume during the March/April 2015 sampling event. Referring to historical analytical data, the March/April 2015 VC plume concentrations data

indicates that VC concentrations are decreasing over time or remaining stable. The most notable areas of decreased concentrations were in wells IW-18, LAW-PZ-8R, MW-32, and MW-33.

The mid to down-gradient portion of the VC plume was characterized by both reductions and increases in VC concentrations. The concentrations in MW-32 and MW-33 reduced from 100 and 440 µg/L to <0.50 and 100 µg/L from the October 2014 to March/April 2015 sampling event, respectively. Whereas, at well MW-29 the concentration increased from 660 to 790 µg/L from the October 2014 to March/April 2015 sampling event. Due to the reductions in concentration in wells MW-32 and MW-33, the VC plume footprint decreased significantly.

In summary, the VC plume has significantly reduced in both areal extent and in concentration relative to the original footprint and continues to trend towards RRS values. This indicates that MNA is effective in reducing VC concentrations.

#### 4.4.2.2 VOC Plume

The COCs monitored within the VOC plume consists of Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX). Since the first VIRP sampling event, conducted in October 2011, the VOC plume concentrations within the original VOC plume footprint have declined substantially. The following subsections describe spatial and temporal changes of individual VOC constituents since VIRP sampling was initiated in October 2011.

**Benzene Plume:**

Figure 4-8 illustrates the horizontal extent of the benzene plume from the March/April 2015 sampling event The benzene plume is composed of two isolated areas of contamination near the up-gradient and down-gradient portions of the original VOC plume footprint. The up-gradient benzene plume continues to maintain stability and decreased significantly in LAW-PZ-8R from 3,400 to 1,100 µg/L from the October 2014 to March/April 2015 sampling event, respectively. However, the concentration in IW-18 increased from 170 to 350 µg/L.

The down-gradient plume, centered in MW-29, has remained relatively stable over time as compared to the original footprint. The most notable change in the down-gradient Benzene concentration was observed in MW-32 where the concentration decreased from 8.3 µg/L to below MDLs. In summary, the Benzene plume has reduced significantly in concentration and extent as compared to the original plume footprint and continues to trend towards RRS values.

**Toluene Plume:**

Figure 4-9 illustrates the horizontal extent of the toluene plume from the March/April 2015 sampling event. In the previous October 2014 sampling event, the toluene concentration in LAW-PZ-8R increased to 800 µg/L. However, during the March/April 2015 event, Toluene concentrations Toluene reduced to below MDLs or to <480 µg/L. Additionally, concentrations in IW-1R decreased from 320 to 260 µg/L. As such, it is apparent that the toluene plume continues to decrease in concentration and has remained below RRS values since the initiation of the VIRP program.

**Ethylbenzene Plume:**

Figure 4-10 illustrates the horizontal extent of the ethylbenzene plume from the March/April 2015 sampling event. In the previous progress report, EIC noted that concentrations of Ethylbenzene in the up-gradient plume increased sharply from the April to October 2014 sampling events (EIC, 2015). During the March/April 2015 sampling event, however, Ethylbenzene concentrations in LAW-PZ-8R decreased from 13,000 to 6,900 µg/L. Other concentrations in the up-gradient plume remained relatively stable, however, concentrations at MW-26R increased from 25 to 760 µg/L.

Concentrations in the down-gradient plume increased from 1,800 to 3,300 between the October 2014 and March/April 2015 sampling events. However, Ethylbenzene concentrations decreased in PAN-MW-9 and MW-32 from 650 and 36 µg/L to 580 and <0.33 µg/L respectively.

In summary, the Ethylbenzene plume has significantly reduced in concentration and extent in comparison to the original plume footprint and continues to trend towards RRS values. This indicates that MNA is effective in reducing Ethylbenzene concentrations.

**Total Xylenes Plume:**

Figure 4-11 illustrates the horizontal extent of the Total Xylenes plume from the March/April 2015 sampling event. Similar to Ethylbenzene, Total Xylenes within the up-gradient plume increased sharply between the April and the October 2014 sampling events (EIC, 2015). The up-gradient Total Xylenes plume was centered near LAW-PZ-8R in April 2015, and has remained relatively stable in concentration and extent with some variation, as compared to the original plume footprint. However, during the March/April 2015 sampling event, Total Xylenes concentrations sharply decreased in LAW-PZ-8R and IW-1R. Between the October 2014 to March/April 2015 sampling events, the Total Xylenes concentrations in wells LAW-PZ-8R and IW-1R decreased significantly - from 180,000 and 19,000 µg/L to 87,000 and 17,000 µg/L respectively. Also, similar to the Benzene and Ethylbenzene plumes, concentrations of Total Xylenes increased in wells IW-18 and MW-26R. Since the last

sampling event, Total Xylenes concentrations increased in wells IW-18 and MW-26R from 1,100 and 400 µg/L to 1,300 and 11,000 µg/L, respectively.

The down-gradient Total Xylenes plume is centered near MW-29 and has remained relatively stable over time in both concentration and extent as compared to the original plume footprint. The overall down-gradient plume concentrations decreased between October 2014 and March/April 2015- most notably in PAN-MW-9. From the October 2014 to March/April 2015, the concentration at PAN-MW-9 decreased from 1,800 to 1,400 µg/L respectively. Other smaller decreases in concentration were observed in wells MW-32 and MW-33. This slightly reduced the overall extent of the down-gradient Total Xylenes plume. In summary, the Total Xylenes plume has significantly reduced in concentration and extent as compared to the original plume footprint and remains stable in concentration and extent.

### 4.4.3 Vertical Extent of COC Plumes

The historical groundwater sampling results of samples from the single deep well MW-14 within the original COCs footprint through March/April 2015 are tabulated in Table 4-4. Since the redevelopment and integration of well MW-14 into the regular CVOC and VOC sampling schedule in October 2013 through April 2015, EIC confirmed that all monitored COC concentrations in the well have remained below delineation standards and all but one parameter were below MDLs. In the EPD comment letter to VOPAK dated April 3, 2014, the Georgia EPD concurred with EIC that vertical delineation is complete.

SECTION

5

# 5.0 REMEDIAL PROGRESS

To determine the remedial progress, EIC performed a spatial and temporal analysis of the COC plumes and an evaluation of COC trends in individual wells. The following subsections discuss the remedial progress.

## 5.1 COC Degradation

The spatial and temporal analysis of the plume, discussed in Section 4, provides a clear insight into the overall remedial progress and the plume stability. The following subsections discuss the degradation of the COCs.

### 5.1.1 CVOC Plume

As discussed in the previous report, the prevailing PCE, TCE, DCE, and VC plumes have degraded significantly in comparison to the original plume footprints (EIC, 2015). Since the inception of the VIRP program and subsequent first sampling event in October 2011, EIC has delineated the leading edge of each CVOC plume.

Referring to the March/April 2015 analytical data, the following monitoring wells exceed RRS values as of the time of the March/April 2015 groundwater monitoring event; PCE (IW-1R, IW-18, MW-26R, MW-28, MW-29, MW-37, LAW-PZ-8R, and PAN-MW-9), TCE (IW-1R and MW-29), DCE (IW-1R, LAW-PZ-8R, MW-29, and PAN-MW-9), and VC (IW-1R, IW-18, MW-16, MW-24R, MW-26R, MW-27, MW-28, MW-29, MW-33, MW-37, LAW-PZ-8R, and PAN-MW-9)

### 5.1.2 VOC Plume

Following a similar trend as the CVOC plume, the VOC plume has also reduced substantially in the center and at the leading edge of the VOC baseline footprint. This has resulted in an isolated pocket

of VOC plume at well LAW-PZ-8R in the trailing edge of the original VOC footprint. EIC has delineated the leading edge of each VOC plume.

Referring to the March/April 2015 analytical data, it is apparent that the following monitoring wells exceed RRS concentrations for VOCs; benzene (IW-1R, IW-18, LAW-PZ-8R, MW-26R, MW-29, and PAN-MW-9), ethylbenzene (IW-1R, LAW-PZ-8R, MW-26R, and MW-29), and total xylenes (IW-1R, LAW-PZ-8R, and MW-26R).

### 5.2 COC Trends in Individual Wells

Pursuant to EPD's requirement, discussed in the Seventh VIRP Semiannual Progress Report, EIC prepared trend graphs for each constituent for select wells (EIC, 2015). These trend graphs are presented as Figures 5-1 through 5-13.

In general, all graphs illustrate the initial increase in PCE concentrations but then a gradual decline in concentrations during subsequent sampling events. By contrast, the degradation products of PCE have increased in some areas and remained persistent in other areas of the PCE footprint – confirming natural attenuation of PCE. A more detailed analysis of fluid flow hydrodynamics as well as fate and transport evaluation of CVOC and VOC concentrations is included in the revised site conceptual model (Appendix A).

### 5.3 Remedial Progress

In the previous report, VOPAK notified EPD that the CVOC foot-print had expanded after additional pockets of CVOCs were discovered from new wells that replaced damaged or missing wells. The CVOC concentrations, however, rapidly declined since the previous semi-annual sampling event. Also, the areal extent of PCE is now confined to two small areas within the original footprint. VOPAK will verify this trend in the based on the analytical data from the next sampling event scheduled for October 2015. VOPAK will then evaluate the contingency remedial measures that may be required for localized treatment, request a time extension to reach remedial end points, or explore Type 5 RRS with UECs to address exposure pathways.

### 5.4 Final Remediation Plan

Although recent data indicates substantial remedial progress, VOPAK is considering multiple options in finalizing its remedial plan. However, data from the next sampling event scheduled in October 2015 is critical in verifying whether the recent reduction in the leading edge can be reconfirmed and to select the most cost-effective remedial option. Nevertheless, VOPAK is pursuing the following tasks:

1. Using modeling, statistical analysis, or projections, amend the estimate the time needed to reach remedial end points based on the MNA trends relative to the current COC footprint.
2. Conduct Microcosm Testing and Evaluation to determine whether amendments of some of the key parameters support enhanced attenuation option.
3. Conduct an evaluation of the potential for treatment of an isolated pocket of COCs using a treatment train.
4. Evaluate the feasibility of performing a flow-net analysis to determine fluid flow hydrodynamics along the bulkhead and the sheet pile in the adjacent area.
5. Conduct an evaluation of other options to reach remedial end points within the VIRP deadline or extend the deadline with EPD concurrence.

### 5.5 Updated Schedule and Timeline

Based on the aforementioned findings, VOPAK is deferring the preparation of a final remediation plan, updated schedule, and cost estimate until the analytical data is available from the October 2015 semiannual sampling event.

SECTION

6

# 6.0 SUMMARY

On behalf of VOPAK, EIC has addressed the comments noted in EPD's letter dated July 29, 2015. EIC has updated the SCM based on new information obtained regarding site conditions and fluid flow hydrodynamics. Data from the recent March/April 2015 sampling event, indicates that the natural attenuation continues to be viable.

As discussed in the previous Seventh VIRP Semiannual Progress Report, pockets of contamination were discovered following the initiation of the VIRP program (EIC, 2015). These additional areas of contamination presents a challenge in reaching remedial end points within the regulatory deadline of August 31, 2016 established in the VIRP. Nevertheless, MNA has successfully attenuated the COCs in a substantial area encompassing the center of the baseline plume footprint, resulting in isolated individual pockets of plumes at the leading and trailing edges.

Data from recent sampling event, a substantial reduction in COC concentrations at the leading edge.

Nevertheless, data from the next sampling event scheduled in October 2015 is critical in verifying whether the recent reduction in the leading edge can be reconfirmed and to select the most cost-effective remedial option. Based on the results of the October 2015 sampling event, VOPAK will explore multiple options in finalizing contingency plans.

SECTION

7

# 7.0 SUMMARY OF HOURS

A monthly summary of hours invoiced for the aforementioned tasks during the period from March 2015 through August 2015 are summarized in Attachment C.

SECTION

8

# 8.0 REFERENCES


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VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# EIGHTH SEMI-ANNUAL PROGRESS REPORT

# TABLES

# Table 4-1: April 2015 Well Gauging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Gauging Date | TOC Elevation* (ft.) | DTP (ft.) | DTW** (ft.) | Groundwater Surface Elevation (ft.) | Notes |
|---|---|---|---|---|---|---|
| IW-1R (1) | 4/2/2015 | UNK | ND | 3.4 | NA | Contact with clear oily substance, used mini bailer to clear |
| IW-18 (1) | 4/2/2015 | 10.07 | ND | 3.18 | 6.89 | |
| LAW-PZ-8R (1) | 4/2/2015 | 9.22 | ND | 1.53 | 7.69 | |
| MW-14 (2) | 4/1/2015 | 8.86 | ND | 6.48 | 2.38 | |
| MW-16 (1) | 4/2/2015 | 17.01 | ND | 12.03 | 4.98 | Tubing hit refusal few times when inserted, small bubbles in tubing |
| MW-17R (1) | 3/31/2015 | 15.89 | ND | 10.93 | 4.96 | |
| MW-18R (1) | 3/30/2015 | 14.12 | ND | 6.18 | 7.94 | |
| MW-19 (1) | 3/30/2015 | 14.91 | ND | 6.69 | 8.22 | |
| MW-23 (1) | 3/30/2015 | 10.39 | ND | 3.42 | 6.97 | |
| MW-24R (1) | 4/1/2015 | 11.81 | ND | 5.45 | 6.36 | |
| MW-25 (1) | 3/30/2015 | 14.76 | ND | 6.51 | 8.25 | |
| MW-26R (1) | 4/2/2015 | 10.59 | ND | 3.12 | 7.47 | |
| MW-27 (1) | 3/30/2015 | 9.38 | ND | 4.08 | 5.30 | |
| MW-28 (1) | 3/31/2015 | UNK | ND | 4.12 | NA | |
| MW-29 (0.75) | 4/1/2015 | 11.73 | ND | 6.04 | 5.69 | |
| MW-30 (2) | 4/2/2015 | 11.23 | ND | 5.05 | 6.18 | |
| MW-31 (2) | 3/30/2015 | 9.67 | ND | 4.48 | 5.19 | |
| MW-32 (2) | 3/31/2015 | 11.70 | ND | 5.49 | 6.21 | |
| MW-33 (2) | 4/2/2015 | 8.96 | ND | 2.38 | 6.58 | Distinct yellow color in cylinder and sample tube |
| MW-34 (2) | 3/31/2015 | 10.81 | ND | 3.28 | 7.53 | Water in vault |
| MW-35 (2) | 3/31/2015 | 10.40 | ND | 5.47 | 4.93 | |
| MW-36 (2) | 3/31/2015 | 10.42 | ND | 6.48 | 3.94 | |
| MW-37 (2) | 3/31/2015 | 11.57 | ND | 3.97 | 7.60 | |
| PAN-MW-9 (2) | 4/1/2015 | 12.59 | ND | 6.49 | 6.10 | |
| PAN-MW-10 (2) | 4/1/2015 | 13.81 | ND | 8.24 | 5.57 | |

**Notes:**
ID = Identity
TOC = Top of Casing
UNK = Unknown
NM = Not Measured

ND = Not Detected

* TOC elevations are based on well surveys conducted by EMC Engineering on June 30, 2011, January 24, 2013, and on January 20, 2014 and are of the NGVD 29 Datum convention

** DTW measurements were recorded by EIC from 3/30/2015 to 4/2/2015 prior to purging using a Solinst Oil/Water Interface Meter (probe), Model: 122

## Table 4-2: March/April Well Purging Data
## VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Date of Purge | Purge Time (minutes) | Total Purge Volume (mL) | Average Purge Rate (mL/minute) | Initial Tubing Intake Depth below TOC* (ft.) | Final Tubing Intake Depth below TOC (ft.) |
|---|---|---|---|---|---|---|
| IW-1R (1) | 4/2/2015 | 15 | 1,120 | 75 | 14.0 | 14.0 |
| IW-18 (1) | 4/2/2015 | 20 | 1,280 | 64 | 15.0 | 15.0 |
| LAW-PZ-8R (1) | 4/2/2015 | 35 | 3,140 | 90 | 6.0 | 6.0 |
| MW-14 (2) | 4/1/2015 | 20 | 1,280 | 64 | 45.0 | 45.0 |
| MW-16 (1) | 4/2/2015 | 20 | 840 | 42 | 13.0 | 13.0 |
| MW-17R (1) | 3/31/2015 | 20 | 880 | 44 | 17.5 | 17.5 |
| MW-18R (1) | 3/30/2015 | 30 | 4,200 | 140 | 11.5 | 11.5 |
| MW-19 (1) | 3/30/2015 | 20 | 2,980 | 149 | 13.0 | 13.0 |
| MW-23 (1) | 3/30/2015 | 30 | 3,020 | 101 | 8.5 | 8.5 |
| MW-24R (1) | 4/1/2015 | 35 | 2,830 | 81 | 14.0 | 14.0 |
| MW-25 (1) | 3/30/2015 | 30 | 4,100 | 137 | 14.0 | 14.0 |
| MW-26R (1) | 4/2/2015 | 15 | 1,180 | 79 | 9.5 | 9.5 |
| MW-27 (1) | 3/30/2015 | 15 | 880 | 59 | 10.5 | 10.5 |
| MW-28 (1) | 3/31/2015 | 15 | 780 | 52 | 9.0 | 9.0 |
| MW-29 (0.75) | 4/1/2015 | 40 | 1,940 | 49 | 18.0 | 18.0 |
| MW-30 (2) | 4/2/2015 | 30 | 3,500 | 117 | 10.0 | 10.0 |
| MW-31 (2) | 3/30/2015 | 15 | 2,000 | 133 | 15.0 | 15.0 |
| MW-32 (2) | 3/31/2015 | 15 | 2,000 | 133 | 11.0 | 11.0 |
| MW-33 (2) | 4/2/2015 | 15 | 1,980 | 132 | 10.5 | 10.5 |
| MW-34 (2) | 3/31/2015 | 15 | 2,400 | 160 | 11.0 | 11.0 |
| MW-35 (2) | 3/31/2015 | 15 | 1,740 | 116 | 10.0 | 10.0 |
| MW-36 (2) | 3/31/2015 | 15 | 1,540 | 103 | 11.0 | 11.0 |
| MW-37 (2) | 3/31/2015 | 15 | 2,150 | 143 | 10.0 | 10.0 |
| PAN-MW-9 (2) | 4/1/2015 | 15 | 920 | 61 | 10.0 | 10.0 |
| PAN-MW-10 (2) | 4/1/2015 | 15 | 2,200 | 147 | 12.5 | 12.5 |

**Notes:**

ID = Identity

mL = Milliliter

TOC = Well Top of Casing

* During well purging, the Teflon-lined tubing was lowered as needed when the water level fell to the depth of the intake, causing air to be recovered.

## Table 4-3: Groundwater Natural Attenuation Parameters
## VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Groundwater Quality Field Parameters | | | | | |
|---|---|---|---|---|---|---|
| | Temp (Celcius) | pH (SU) | ORP (mV) | Specific Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) |
| IW-1R (1) | 25.2 | 4.14 | 102 | 0.52 | 4.6 | 0.39 |
| IW-18 (1) | 25.23 | 5.14 | -2 | 0.736 | 157.0 | 0.61 |
| LAW-PZ-8R (1) | 23.36 | 5.53 | -36 | 0.813 | 116.0 | 0.31 |
| MW-14 (2) | 19.43 | 7.01 | -75 | 0.477 | 0.0 | 1.62 |
| MW-16 (1) | 21.50 | 5.55 | 5 | 0.489 | 0.0 | 0.64 |
| MW-17R (1) | 28.74 | 5.93 | -50 | 0.405 | 3.3 | 0.76 |
| MW-18R (1) | 16.71 | 3.91 | 291 | 0.300 | 24.8 | 1.90 |
| MW-19 (1) | 17.38 | 6.33 | -28 | 1.060 | 0.0 | 0.90 |
| MW-23 (1) | 18.61 | 6.33 | 35 | 1.040 | 41.9 | 0.75 |
| MW-24R (1) | 16.43 | 4.60 | 56 | 0.468 | 0.0 | 0.90 |
| MW-25 (1) | 19.24 | 6.00 | -79 | 0.693 | 10.1 | 0.70 |
| MW-26R (1) | 21.84 | 5.57 | 7 | 0.621 | 15.7 | 0.83 |
| MW-27 (1) | 22.93 | 6.15 | 51 | 0.391 | 0.0 | 1.00 |
| MW-28 (1) | 18.22 | 6.30 | 203 | 0.390 | 0.0 | 1.83 |
| MW-29 (0.75) | 21.22 | 4.44 | 43 | 1.240 | 79.0 | 0.62 |
| MW-30 (2) | 22.87 | 4.14 | 111 | 0.286 | 0.0 | 0.43 |
| MW-31 (2) | 21.51 | 6.52 | 33 | 0.864 | 0.0 | 0.63 |
| MW-32 (2) | 23.48 | 6.47 | -38 | 0.719 | 27.5 | 1.47 |
| MW-33 (2) | 23.61 | 4.97 | 45 | 0.399 | 41.1 | 0.48 |
| MW-34 (2) | 20.11 | 4.33 | 201 | 0.178 | 0.0 | 1.03 |
| MW-35 (2) | 23.39 | 6.58 | -132 | 0.616 | 0.0 | 0.73 |
| MW-36 (2) | 24.81 | 6.38 | -128 | 1.370 | 0.0 | 0.79 |
| MW-37 (2) | 17.42 | 5.31 | 40 | 0.324 | 0.0 | 0.71 |
| PAN-MW-9 (2) | 17.62 | 4.75 | 24 | 0.602 | 5.4 | 0.76 |
| PAN-MW-10 (2) | 18.42 | 5.68 | 143 | 0.541 | 0.0 | 2.33 |

**Notes:**
Field parameters were recorded by EIC from 10/13/2014 to 10/17/2014 after parameters had stabilized and prior to sample collection.
Parameters were measured with a Horiba U-52 Water Quality Meter with a Flow-Through Cell.
ID= Identity
SU= Standard Unit
mV= Millivolts
mS/cm= Microsiemens per centimeter
NTU= Nephelometric Turbidity Unit
mg/L= Milligrams per liter

**Table 4-4: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Terminal Savannah, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| IW-1R | Apr-14 | 310 | | 210 | | 13,000 | | 640 | | 130 | | 300 | | 2,900 | | 25,000 | |
| | Oct-14 | 170 | | 190 | | 11,000 | | 450 | | 130 | J | 320 | | 2,200 | | 19,000 | |
| | Apr-15 | 310 | | 150 | J | 9,900 | | 440 | | 110 | J | 260 | | 2,300 | | 17,000 | |
| IW-18 | Oct-11 | 55 | | 58 | | 4,400 | | 220 | | 36 | | 7.3 | J | 38 | | 93 | |
| | Jan-12 | 48 | J | 43 | J | 4,800 | | 230 | | 29 | J | <50 | | 33 | J | 86 | |
| | Apr-12 | 44 | J | 46 | J | 4,500 | | 210 | | 25 | J | <50 | | 24 | J | 55 | J |
| | Jul-12 | 31 | J | 33 | J | 4,500 | | 160 | | 21 | J | <50 | | 29 | J | 92 | J |
| | Oct-12 | 36 | J | 37 | J | 5,200 | | 320 | | 24 | J | <50 | | 31 | J | 110 | |
| | Jan-13 | 43 | J | 44 | J | 6,000 | | 310 | | 25 | J | <50 | | 40 | J | 170 | |
| | Apr-13 | 42 | | 37 | | 6,000 | | 410 | | 26 | | 13 | | 49 | | 270 | |
| | Jul-13 | 27 | | 31 | | 5,900 | | 770 | | 30 | | 21 | | 110 | | 1,000 | |
| | Oct-13 | 29 | | 26 | | 6,400 | | 670 | | 26 | | 12 | | 56 | | 510 | |
| | Jan-14 | 19 | | 28 | | 5,300 | | 1,900 | | 60 | | 24 | | 100 | | 810 | |
| | Apr-14 | 39 | | 34 | | 7,400 | | 1,100 | | 73 | | 35 | | 220 | | 1,900 | |
| | Oct-14 | 11 | J | 12 | J | 2,900 | | 1,500 | | 170 | | 28 | J | 130 | | 1,100 | |
| | Apr-15 | <7.4 | | 8.4 | J | 920 | | 830 | | 350 | | 14 | | 180 | | 1,300 | |
| LAW-PZ-8 / LAW-PZ-8R | Sep-97 | 50/500 | | NR | | NR | | 350/<500 | | NS | | NS | | NS | | NS | |
| | Dec-98 | <1000 | | NR | | NR | | <1,000 | | <1000 | | <1000 | | 4,300 | | 5,600 | |
| | Nov-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | <250 | | <250 | | 1,800 | | 890 | | <250 | | <250 | | 5,100 | | 59,000 | |
| | Jun-01 | <1200 | | <1200 | | 3,900 | | 670 | | 69 | J | 220 | J | 5,700 | | 64,000 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | 70 | J | 18 | J | 350 | | 120 | | 42 | J | <100 | | 3,700 | | 42,000 | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | 300 | | <100 | | 31,000 | | 1,700 | | 190 | | 1,200 | | 6,100 | | 84,000 | |
| | Dec-06 | 240 | | 72 | | 12,000 | | 630 | | 47 | | 410 | | 3,000 | | 41,000 | |
| | Mar-07 | <250 | | <250 | | 16,000 | | 1,200 | | <500 | | 760 | | 5,000 | | 70,000 | |
| | Sep-07 | 240 | | <100 | | 18,000 | | 1,200 | | 310 | | 720 | | 4,400 | | 54,000 | |
| | May-08 | 380 | | 34 | | 6,900 | | 660 | | 450 | | 330 | | 6,500 | | 94,000 | |
| | Dec-08 | 570 | | 52 | | 4,600 | | 360 | | 290 | | 290 | | 4,900 | | 55,000 | |
| | Apr-09 | 510 | | <250 | | <250 | | 560 | | 320 | | 280 | | 3,800 | | 48,000 | |
| | Sep-09 | 99 | | 34 | | 4,500 | | 470 | | 390 | | 260 | | 4,100 | | 47,000 | |
| | Apr-10 | 240 | | 49 | | 5,100 | | 480 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 150 | | 28 | J | 22,000 | | 1,500 | | 1,600 | | 1,100 | | 8,000 | | 73,000 | |
| | Jan-12 | 130 | J | <500 | | 17,000 | | 1,600 | | 1,700 | | 930 | | 7,500 | | 88,000 | |
| | Apr-12 | 99 | J | <500 | | 17,000 | | 1,800 | | 2,300 | | 1,100 | | 7,500 | | 110,000 | |
| | Jul-12 | 110 | J | <500 | | 16,000 | | 1,200 | | 2,000 | | 820 | | 7,100 | | 91,000 | |
| | Oct-12 | 83 | | <500 | | 8,000 | | 870 | | 1,300 | | 530 | | 7,300 | | 100,000 | |
| | Jan-13 | 99 | | <500 | | 13,000 | | 1,100 | | 2,000 | | 800 | | 7,500 | | 100,000 | |
| | Apr-13 | 71 | | 12 | | 9,100 | | 960 | | 1,400 | | 570 | | 7,200 | | 110,000 | |
| | Jul-13 | 30 | | 5.6 | J | 11,000 | | 990 | | 1,900 | | 650 | | 7,600 | | 110,000 | |
| | Oct-13 | 44 | | 8.5 | J | 8,500 | | 830 | | 1,500 | | 510 | | 6,800 | | 110,000 | |
| | Jan-14 | 38 | | <1.9 | | 7,200 | | 980 | | 1,200 | | 370 | | 4,000 | | 88,000 | |
| | Apr-14 | 22 | | 8.6 | J | 7,400 | | 840 | | 1,200 | | 400 | | 4,900 | | 58,000 | |
| | Oct-14 | <150 | | <130 | | 15,000 | | 1,900 | | 3,400 | | 1,100 | | 13,000 | | 180,000 | |
| | Apr-15 | <740 | | <480 | | 4,100 | | <500 | | 1,100 | | <480 | | 6,900 | | 87,000 | |

**Table 4-4: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Terminal Savannah, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-14 | Feb-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-96 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-97 | 33 | | NR | | NR | | <5 | | NS | | NS | | NS | | NS | |
| | Dec-98 | <1 | | NR | | NR | | <1 | | <1 | | <1 | | **2.9** | | **1.4** | |
| | Nov-99 | <5 | | <5 | | <2 | | <2 | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | NS | | <2 | | <2 | | <5 | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-13 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | **3.5** | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.11 | | <0.33 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-15* | Feb-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-96 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-97 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-98 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Nov-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 5.3 | | **14** | | <5 | | NS | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | 12 | | **12** | | **4** | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <3 | | **4** | | **3** | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | 17 | | NS | | NS | | NS | | NS | |
| | Apr-11 | 69 | | 39 | | 2,200 | | 150 | | 34 | | **8.3** | **J** | **26** | | **86** | |

**Table 4-4: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Terminal Savannah, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-16 | Oct-00 | NS | | <1 | | 110 | | 2.2 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | 41 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | 33 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | 36 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | 12 | | 120 | | 4 | | <2 | | <2 | | <2 | | 7 | |
| | Dec-06 | <2 | | 24 | | 120 | | 8 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | 9 | | 71 | | 320 | | 25 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | 260 | | 63 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | 61 | | 53 | | <2 | | <2 | | 6 | | <5 | |
| | Dec-08 | <5 | | <5 | | 60 | | 49 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | 78 | | 82 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | 4.1 | | 78 | | 69 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | <5 | | <5 | | 89 | | 83 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.57 | J | 0.66 | J | 160 | | 77 | | 0.52 | J | <1 | | 0.3 | J | 1.9 | J |
| | Jan-12 | 0.67 | J | 0.94 | J | 130 | | 85 | | 0.44 | J | 0.42 | J | 0.12 | J | 1.3 | J |
| | Apr-12 | <1 | | 0.94 | J | 140 | | 200 | | 0.74 | J | 0.33 | J | 1.7 | | 21 | |
| | Jul-12 | 0.28 | J | 0.63 | J | 87 | | 48 | | 0.41 | J | <1 | | 0.23 | J | 1.1 | J |
| | Oct-12 | <2 | | 0.37 | J | 200 | | 94 | | <2 | | <2 | | 0.52 | J | 1.7 | J |
| | Jan-13 | <1 | | <1 | | 120 | | 78 | | 0.27 | J | <1 | | 0.49 | J | 1.4 | J |
| | Apr-13 | <0.22 | | 0.6 | J | 140 | | 85 | | 0.42 | J | 0.24 | J | 2.1 | | 8 | |
| | Jul-13 | <0.16 | | <0.19 | | 320 | | 100 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | 0.58 | J | 1.1 | | 110 | | 86 | | 0.83 | | <0.14 | | 1.2 | | 5.6 | |
| | Jan-14 | <0.16 | | <0.19 | | 170 | | 180 | | 1.5 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | 1.1 | | 310 | | 160 | | 2 | | <0.14 | | 8.3 | | 4.1 | |
| | Oct-14 | <0.15 | | 0.34 | J | 130 | | 81 | | 1.3 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <1.5 | | 6 | | 210 | | 120 | | 2.7 | | <0.96 | | 3.4 | | 1.3 | J |
| MW-17/ MW-17R | Oct-00 | NS | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Jul-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-04 | <5 | | <5 | | <5 | | <2 | | <10 | | 5 | | <5 | | <5 | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <5 | | <5 | | <5 | | <2 | | <10 | | 8 | | <5 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | 7 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | 4 | | 27 | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | 0.2 | J | <1 | | 0.39 | J | <1 | | 0.55 | J | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | 0.44 | J | 0.35 | J | 1.5 | | 0.65 | J |
| | Apr-12 | <1 | | 0.13 | J | 2.8 | | 0.19 | J | 0.48 | J | <1 | | 0.7 | J | 0.22 | J |
| | Jul-12 | 1.3 | | 1.2 | | 9.2 | | <1 | | 0.29 | J | <1 | | 0.62 | J | 0.28 | J |
| | Oct-12 | 16 | | 5.2 | | 13 | | <1 | | <1 | | <1 | | 1.4 | | 0.5 | J |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.84 | J | <2 | |
| | Apr-13 | 4.1 | | 1.3 | | 1.6 | | <0.30 | | 0.18 | J | <0.15 | | 1.2 | | 0.33 | J |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 1.5 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 0.83 | J | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 0.95 | J | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | 0.66 | J | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | 0.79 | J | <0.23 | |

**Table 4-4: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Terminal Savannah, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-18/ MW18R | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **2** | | **22** | |
| | Mar-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Jul-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | **2** | | **16** | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-19 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | **0.22** | **J** | <1 | | <1 | | <1 | | **1.7** | | **12** | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | **0.14** | **J** | <0.30 | | <0.18 | | <0.15 | | **0.21** | **J** | **0.41** | **J** |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Table 4-4: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Terminal Savannah, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-20 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-15 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| MW-21 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | 120 | | **1.8** | | <1 | | <1 | | <1 | | <1 | | **4.2** | | **38** | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Aug-05 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Jun-06 | 12 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <5 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-15 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |

**Table 4-4: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Terminal Savannah, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-22/ MW-22R | Jun-01 | 8,700 | | 900 | | 3,100 | | 380 | | <500 | | <500 | | 600 | | 83 | J |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 1,000 | | 480 | | 930 | | <100 | | <250 | | <250 | | <250 | | <500 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 7,600 | | 700 | | 2,300 | | 210 | | <10 | | <5 | | 2,300 | | <50 | |
| | Jul-04 | 7,000 | | 71 | | 310 | | 36 | | <10 | | <5 | | 14 | | <22 | |
| | Sep-04 | 7,200 | | <250 | | 610 | | <100 | | <500 | | <250 | | <250 | | <250 | |
| | May-05 | 5,700 | | 220 | | 840 | | <100 | | <100 | | <100 | | <100 | | <250 | |
| | Aug-05 | 2,400 | | 47 | | 240 | | 37 | | <5 | | <5 | | <5 | | 10 | |
| | Jun-06 | 680 | | 71 | | 3,300 | | 140 | | <250 | | <130 | | 150 | | <130 | |
| | Oct-06 | 2,600 | | <130 | | 490 | | 89 | | <250 | | <130 | | <130 | | <130 | |
| | Dec-06 | 3,200 | | 60 | | 480 | | 100 | | <2 | | <2 | | 20 | | 18 | |
| | Mar-07 | 3,400 | | <130 | | 730 | | 100 | | <250 | | <130 | | <130 | | <130 | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | 6,900 | | 89 | | 930 | | 270 | | 2 | | <2 | | 10 | | 26 | |
| | Dec-08 | 4,400 | | 100 | | 2,100 | | 300 | | <5 | | <5 | | 7 | | 12 | |
| | Apr-09 | 1,900 | | 88 | | 1,700 | | 280 | | <5 | | <5 | | 11 | | 22 | |
| | Sep-09 | 3,000 | | 88 | | 1,000 | | 220 | | 4.1 | | <2 | | 9.2 | | 12 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jul-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jul-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-15 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| MW-23 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 760 | | 2,300 | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <2 | | <2 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | 0.23 | J | 0.42 | J |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Table 4-4: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Terminal Savannah, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-24/ MW-24R | Nov-01 | 400 | | 95 | | 240 | | 50 | | <12 | | <12 | | <12 | | <25 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 97 | | 51 | | 100 | | 22 | | 52 | | <10 | | <10 | | <20 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | 1,300 | | 180 | | 500 | | 49 | | 11 | | <5 | | 5 | | 28 | |
| | Oct-06 | 580 | | 150 | | 590 | | 33 | | <20 | | <20 | | <20 | | <50 | |
| | Dec-06 | 1,110 | | 680 | | 990 | | 68 | | 13 | | <2 | | 10 | | 35 | |
| | Mar-07 | 130 | | 200 | | 770 | | 17 | | 14 | | <5 | | <5 | | 12 | |
| | Sep-07 | 62 | | 37 | | 820 | | 20 | | 12 | | <2 | | 2 | | 7 | |
| | May-08 | 130 | | 24 | | 82 | | 9 | | 16 | | <2 | | <2 | | 11 | |
| | Dec-08 | 110 | | 25 | | 340 | | 12 | | 15 | | <5 | | <5 | | <5 | |
| | Apr-09 | 93 | | 22 | | 240 | | 18 | | 12 | | <5 | | <5 | | <5 | |
| | Sep-09 | 57 | | 20 | | 120 | | 47 | | 10 | | <2 | | <2 | | <5 | |
| | Apr-10 | 35 | | 10 | | 150 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 12 | | 5.8 | | 180 | | 25 | | 10 | | <5 | | 1.4 | J | 4.2 | J |
| | Jan-12 | 7.5 | | 3.9 | | 160 | | 16 | | 8.2 | | 0.4 | J | 0.98 | J | 11 | |
| | Apr-12 | 6.8 | | 4.7 | | 230 | | 7.4 | | 11 | | 1.8 | J | 16 | | 230 | |
| | Jul-12 | 6.7 | | 3.6 | | 220 | | 9.2 | | 7.6 | | <2 | | <2 | | <4 | |
| | Oct-12 | 6 | | 3.4 | J | 320 | | 54 | | 8.1 | | <5 | | 3.4 | J | 20 | |
| | Jan-13 | 3 | J | 2.1 | J | 410 | | 71 | | 6.9 | | <5 | | 4 | J | 22 | |
| | Apr-13 | 3.5 | | 2.8 | | 540 | | 64 | | 6.2 | | 0.71 | J | 4.4 | | 26 | |
| | Jul-13 | 5.3 | | 5.4 | | 800 | | 140 | | 8.2 | | 1.2 | | 11 | | 58 | |
| | Oct-13 | 3.3 | | 2.2 | | 450 | | 43 | | 6 | | 0.41 | J | 0.79 | J | 6.3 | |
| | Jan-14 | 2.6 | | 4.4 | | 570 | | <0.19 | | 6.1 | | <0.14 | | <0.19 | | 2.7 | |
| | Apr-14 | 2 | | 1.8 | | 500 | | <0.19 | | 5.8 | | 0.48 | J | 0.45 | J | 2 | |
| | Oct-14 | 1.7 | J | <0.65 | | 360 | | 38 | | 5.6 | | <1.7 | | 1.3 | J | <1.0 | |
| | Apr-15 | <3.7 | | <2.4 | | 300 | | 16 | | 3.9 | J | <2.4 | | <1.7 | | <1.2 | |
| MW-25 | Nov-01 | <5 | | <5 | | <5 | | <10 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.72 | J | 8.7 | |
| | Jan-12 | <1 | | <1 | | 0.21 | J | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | 0.27 | J | <1 | | 0.57 | J | <1 | | <1 | | <1 | | 3.2 | | 20 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Table 4-4: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Terminal Savannah, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-26/ MW-26R | Nov-01 | 2,400 | | 100 | | 1,100 | | 210 | | <100 | | <100 | | <100 | | <200 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 300 | | 14 | | 180 | | 38 | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | 120 | | 8 | | 120 | | 28 | | 17 | | <2 | | <2 | | <5 | |
| | Aug-05 | 420 | | 22 | | 210 | | 47 | | 35 | | <5 | | <5 | | 6 | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | <2 | | 2 | | 2,800 | | 330 | | 16 | | 45 | | 380 | | 2,700 | |
| | Dec-06 | 6 | | 4 | | 5,100 | | 560 | | 20 | | 83 | | 1,500 | | 13,000 | |
| | Mar-07 | <5 | | <5 | | 2,600 | | 580 | | 17 | | 45 | | 1,100 | | 6,900 | |
| | Sep-07 | <2 | | <2 | | 240 | | 240 | | 9 | | 4 | | 71 | | 250 | |
| | May-08 | 5 | | <2 | | 410 | | 83 | | 12 | | 10 | | 260 | | 1,300 | |
| | Dec-08 | <5 | | <5 | | 14 | | 19 | | <5 | | 5 | | 23 | | 120 | |
| | Apr-09 | <5 | | <5 | | 200 | | 76 | | 14 | | 21 | | 310 | | 2,700 | |
| | Sep-09 | <2. | | <2 | | 150 | | 62 | | 4.4 | | 3.8 | | 63 | | 380 | |
| | Apr-10 | <5 | | <5 | | 93 | | 48 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | 0.89 | J | 43 | | 34 | | 7.2 | | 1.4 | | 35 | | 110 | |
| | Jan-12 | <25 | | 5 | J | 390 | | 130 | | 29 | | 59 | | 650 | | 6,100 | |
| | Apr-12 | <25 | | 5.5 | J | 350 | | 140 | | 22 | J | 54 | | 610 | | 7,200 | |
| | Jul-12 | <5 | | <5 | | 43 | | 40 | | 21 | | 15 | | 270 | | 2,000 | |
| | Oct-12 | <50 | | <50 | | 210 | | 63 | | 35 | J | 37 | J | 390 | | 4,200 | |
| | Jan-13 | 27 | J | 21 | J | 1,500 | | 220 | | 64 | | 140 | | 2,000 | | 2,400 | |
| | Apr-13 | 5 | J | 3.2 | J | 340 | | 94 | | 56 | | 40 | | 650 | | 8,300 | |
| | Jul-13 | <1.6 | | <1.9 | | 19 | | 12 | | 75 | | 18 | | 450 | | 5,500 | |
| | Oct-13 | <1.6 | | <1.9 | | 150 | | 53 | | 33 | | 10 | J | 160 | | 2,300 | |
| | Jan-14 | <1.6 | | <1.9 | | 68 | | <1.9 | | 110 | | 11 | | 200 | | 7,200 | |
| | Apr-14 | 44 | | <1.9 | | 16 | | 11 | | 110 | | <1.4 | | 64 | | 5,600 | |
| | Oct-14 | <0.75 | | 4.1 | J | 7.2 | | 7.3 | | 19 | | <1.1 | | 25 | | 400 | |
| | Apr-15 | <74 | | <48 | | <41 | | <50 | | 180 | | 63 | J | 760 | | 11,000 | |
| MW-27 | Nov-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | 3 | | 2 | | 350 | | 5 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | 40 | | 22 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | 92 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.86 | J | 1.6 | J | 8.3 | | 200 | | 0.63 | J | <2 | | 0.29 | J | 3.4 | J |
| | Jan-12 | 0.17 | J | 0.42 | J | 1.8 | | 19 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | 0.26 | J | 0.4 | J | 1.7 | | 15 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | 0.26 | J | 1.4 | | 21 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | 0.33 | J | 1.1 | | 16 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | 0.36 | J | 0.88 | J | 2.1 | | 20 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | 0.33 | J | 1 | J | 6.5 | | <0.18 | | <0.15 | | 0.35 | J | 3.9 | |
| | Jul-13 | <0.16 | | 0.8 | J | 2.6 | | 18 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | 2.9 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | 2.1 | | 13 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | 1.9 | | 9.7 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 2.2 | | 12 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | 0.79 | J | 4.7 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Table 4-4: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Terminal Savannah, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-28 | Oct-02 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | 2.3 | | **0.44** | **J** | **14** | | 3.4 | | **0.82** | **J** | <0.33 | | **0.27** | **J** | **2.2** | |
| | Apr-15 | 5.8 | | **1.1** | | **33** | | 8.1 | | **1.6** | | <0.48 | | <0.33 | | <0.23 | |
| MW-29 | Oct-06 | 1,500 | | 340 | | 1,500 | | 24 | | **2** | | <2 | | **67** | | **51** | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | 2,300 | | 320 | | 1,700 | | 64 | | **3** | | <2 | | **63** | | **57** | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | 1,100 | | 320 | | 2,100 | | 74 | | <5 | | <5 | | **35** | | **98** | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | 500 | | 300 | | 3,200 | | 150 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 180 | | 72 | | 2,300 | | 220 | | <20 | | <20 | | 1,300 | | 2,800 | |
| | Jan-12 | 200 | | 77 | | 2,500 | | 280 | | <20 | | <20 | | 1,100 | | 2,500 | |
| | Apr-12 | 100 | | 62 | | 1,900 | | 200 | | **6.3** | **J** | **7.6** | **J** | 950 | | 2,100 | |
| | Jul-12 | 110 | | 54 | | 1,900 | | 230 | | **6.8** | **J** | <20 | | **510** | | 1,000 | |
| | Oct-12 | 71 | | 44 | | 1,600 | | 110 | | <20 | | <20 | | **200** | | **370** | |
| | Jan-13 | 110 | | 41 | | 1,300 | | 140 | | **6** | **J** | **6.7** | **J** | 1,300 | | 2,900 | |
| | Apr-13 | 130 | | 76 | | 2,500 | | 490 | | 11 | | **4.1** | | 750 | | 1,500 | |
| | Jul-13 | 120 | | 69 | | 2,800 | | 460 | | 15 | | **5.4** | **J** | 800 | | 1,700 | |
| | Oct-13 | 140 | | 66 | | 6,100 | | 760 | | 20 | | **10** | **J** | 1,200 | | 2,500 | |
| | Jan-14 | 330 | | 110 | | 5,900 | | 790 | | 23 | | **20** | | 3,100 | | 6,600 | |
| | Apr-14 | 200 | | 150 | | 8,400 | | 880 | | 25 | | **21** | | 1,900 | | 4,000 | |
| | Oct-14 | 74 | | 55 | | 4,300 | | 660 | | <13 | | **21** | **J** | 1,800 | | 4,300 | |
| | Apr-15 | 160 | | 90 | | 5,900 | | 790 | | <22 | | **25** | **J** | 3,300 | | 7,300 | |
| MW-30 | Oct-11 | 0.51 | **J** | **0.55** | **J** | **13** | | **2.9** | | **0.55** | **J** | <1 | | <1 | | <2 | |
| | Jan-12 | 0.18 | **J** | **0.46** | **J** | **13** | | 3.1 | | **0.47** | **J** | <1 | | <1 | | **0.58** | **J** |
| | Apr-12 | 0.19 | **J** | **0.43** | **J** | **9.4** | | **2.6** | | **0.44** | **J** | <1 | | <1 | | <2 | |
| | Jul-12 | 0.45 | **J** | **0.45** | **J** | **7.7** | | **2.4** | | **0.43** | **J** | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | **0.4** | **J** | **11** | | 3.6 | | **0.54** | **J** | <1 | | <1 | | <2 | |
| | Jan-13 | 0.2 | **J** | **0.38** | **J** | **9.4** | | 3.1 | | **0.54** | **J** | <1 | | <1 | | <2 | |
| | Apr-13 | 0.32 | **J** | **0.32** | **J** | **7.8** | | 4.5 | | **0.85** | **J** | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | **11** | | <0.19 | | **1.8** | | <0.14 | | <0.19 | | **2.6** | |
| | Oct-13 | <0.16 | | <0.19 | | **6.2** | | **2.5** | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | **5.6** | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | 0.4 | **J** | **0.4** | **J** | **5** | | <0.19 | | **0.48** | **J** | <0.14 | | **1** | **J** | **2.2** | |
| | Oct-14 | 0.39 | **J** | <0.13 | | **2.3** | | **1.2** | | **0.35** | **J** | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | **1.7** | | **0.88** | **J** | <0.43 | | <0.48 | | <0.33 | | **1.3** | |
| MW-31 | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **0.24** | **J** |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **0.21** | **J** |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **0.33** | **J** | **2.4** | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | **0.43** | **J** | <0.18 | | <0.25 | | <0.33 | | **0.33** | **J** | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Table 4-4: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Terminal Savannah, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-32 | Oct-11 | 7.2 | J | 11 | | 1,500 | | 35 | | <10 | | <10 | | 31 | | 35 | |
| | Jan-12 | 130 | | 61 | | 2,100 | | 53 | | <20 | | <20 | | 45 | | 56 | |
| | Apr-12 | 210 | | 100 | | 2,000 | | 54 | | <20 | | <20 | | 28 | | 22 | J |
| | Jul-12 | 200 | | 140 | | 1,100 | | 40 | | <10 | | <10 | | 17 | | 16 | J |
| | Oct-12 | 1,700 | | 470 | | 1,700 | | 110 | | <10 | | <10 | | 54 | | 26 | |
| | Jan-13 | 2,800 | | 530 | | 940 | | 93 | | <20 | | <20 | | 61 | | 27 | J |
| | Apr-13 | 2,800 | | 520 | | 980 | | 120 | | 0.94 | J | 2.8 | | 75 | | 42 | |
| | Jul-13 | 2,200 | | 570 | | 750 | | 96 | | <1.6 | | <1.4 | | 66 | | 40 | |
| | Oct-13 | 6,200 | | 1,300 | | 1,600 | | 220 | | <1.6 | | 7.2 | J | 160 | | 110 | |
| | Jan-14 | 6,500 | | 1,300 | | 1,600 | | 230 | | <1.6 | | <1.4 | | 180 | | 170 | |
| | Apr-14 | 6,000 | | 1,500 | | 2,200 | | 230 | | <1.6 | | <1.4 | | 200 | | 130 | |
| | Oct-14 | 1,900 | | 680 | | 1,100 | | 100 | | 8.3 | J | <6.6 | | 36 | | 29 | J |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.42 | | <0.33 | | <0.23 | |
| MW-33 | Oct-11 | 5,200 | | 3,200 | | 16,000 | | 840 | | <200 | | <200 | | 370 | | 2,200 | |
| | Jan-12 | 1,100 | | 190 | | 4,100 | | 370 | | <50 | | <50 | | 94 | | 450 | |
| | Apr-12 | 13 | | 11 | | 1,800 | | 390 | | 12 | | 9.3 | J | 46 | | 390 | |
| | Jul-12 | 40 | J | 35 | J | 3,000 | | 290 | | <50 | | <50 | | 34 | J | 88 | J |
| | Oct-12 | 37 | | 35 | | 2,300 | | 330 | | <20 | | <20 | | 28 | | 70 | |
| | Jan-13 | 5.9 | | 9.9 | | 390 | | 130 | | 1.7 | J | 2.3 | | 7.3 | | 15 | |
| | Apr-13 | 1.2 | | 4.7 | | 380 | | 130 | | 1.3 | | 1.5 | | 5.3 | | 12 | |
| | Jul-13 | 15 | | 5.1 | J | 500 | | 220 | | <1.6 | | <1.4 | | 8.9 | J | 24 | |
| | Oct-13 | 1.2 | | 4.8 | | 800 | | 480 | | 1.8 | | 2 | | 9 | | 26 | |
| | Jan-14 | <1.6 | | <1.9 | | 340 | | 300 | | <1.6 | | <1.4 | | 16 | | 40 | |
| | Apr-14 | <1.6 | | 8.4 | J | 360 | | 140 | | <1.6 | | <1.4 | | 7 | J | 25 | |
| | Oct-14 | 1.2 | J | 9.7 | | 390 | | 440 | | <1.3 | | 3.5 | J | 9.4 | | 37 | |
| | Apr-15 | <0.74 | | 2.8 | | 150 | | 100 | | 1.7 | | 1.7 | | 3.1 | | 11 | |
| MW-34 | Oct-11 | 2.2 | | 1.7 | | 44 | | 14 | | 1.6 | | <1 | | <1 | | <2 | |
| | Jan-12 | 13 | | 4.4 | | 80 | | 8.8 | | 3.6 | | <1 | | <1 | | <2 | |
| | Apr-12 | 4.3 | | 2.2 | | 64 | | 16 | | 2.3 | | <1 | | <1 | | <2 | |
| | Jul-12 | 2.3 | | 1.3 | | 35 | | 7.8 | | 1.3 | | <1 | | <1 | | <2 | |
| | Oct-12 | 4.9 | | 1.8 | | 45 | | 8.6 | | 1.8 | | <1 | | <1 | | <2 | |
| | Jan-13 | 8.6 | | 2.5 | | 43 | | 8.4 | | 1.9 | | <1 | | <1 | | <2 | |
| | Apr-13 | 2.7 | | 0.91 | J | 19 | | 5.7 | | 0.76 | J | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | 3 | | 1 | J | 24 | | 0.19 | | 1.1 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | 6.1 | | 3.1 | | 36 | | 9.8 | | 1.3 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | 2.4 | | <0.19 | | 14 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | 0.51 | J | <0.19 | | 4.2 | | <0.19 | | 0.26 | J | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | 1.1 | | 0.23 | J | 5.1 | | 1.8 | | <0.25 | | <0.33 | | 0.17 | J | <0.20 | |
| | Apr-15 | 2.7 | | 0.52 | J | 9.9 | | 2.6 | | 0.47 | J | <0.48 | | <0.33 | | <0.23 | |
| MW-35 | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.16 | J | <0.18 | | <0.25 | | <0.33 | | 0.11 | J | <.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-36 | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | 0.33 | J | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.6 | J | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | 0.59 | J | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-37 | Jan-14 | 30 | | 16 | | 860 | | 130 | | 14 | | <0.14 | | <0.19 | | 1.9 | |
| | Apr-14 | 22 | | 11 | | 690 | | <0.19 | | 16 | | <0.14 | | 1.8 | | 3.8 | |
| | Oct-14 | 36 | | 12 | | 370 | | 93 | | 10 | | 0.91 | J | 0.83 | J | 2.4 | J |
| | Apr-15 | 19 | | 8.5 | | 350 | | 65 | | 6.4 | | <0.96 | | <0.66 | | 0.77 | J |

## Table 4-4: Concentrations of CVOCs and VOCs in Groundwater
## VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| PAN-MW-9 | Feb-91 | 14,000 | | 350 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Jul-91 | 9,200 | | 430 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Jun-96 | 3,040 | | < 2500 | | < 2,500 | | < 2500 | | NS | | NS | | NS | | NS | |
| | Sep-97 | 8,100 | | NR | | NR | | < 500 | | NS | | NS | | NS | | NS | |
| | Dec-98 | 7,400 | | NR | | NR | | < 250 | | < 250 | | < 250 | | 2,400 | | 5,200 | |
| | Dec-99 | 9,100 | | < 1000 | | < 400 | | < 400 | | NS | | NS | | NS | | NS | |
| | Oct-00 | 8,000 | | 360 | | 130 | | < 100 | | < 100 | | < 100 | | 3,900 | | 8,600 | |
| | Jun-01 | 9,800 | | 260 | J | 100 | J | < 200 | | < 500 | | < 500 | | 3,700 | | 8,500 | |
| | Aug-03 | 2,400 | | < 500 | | < 500 | | < 200 | | < 500 | | < 500 | | 1,100 | | 2,000 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 6,900 | | 440 | | 300 | | 35 | | < 50 | | < 25 | | 3,100 | | 7,300 | |
| | Jul-04 | 3,200 | | 270 | | 170 | | 14 | | < 10 | | < 5 | | 8,400 | | 22,000 | |
| | Sep-04 | 6,000 | | 360 | | < 250 | | < 100 | | < 500 | | < 250 | | 2,200 | | 5,100 | |
| | May-05 | 1,100 | | 320 | | 220 | | < 100 | | < 100 | | < 100 | | 6,000 | | 16,000 | |
| | Aug-05 | 80 | | 9 | | 5 | | < 2 | | <2 | | < 5 | | 60 | | 150 | |
| | Jun-06 | 1,600 | | 480 | | 550 | | < 40 | | < 200 | | < 100 | | 730 | | 1,800 | |
| | Oct-06 | 1,500 | | 300 | | 990 | | < 40 | | < 200 | | < 100 | | 990 | | 2,600 | |
| | Dec-06 | 1,900 | | 640 | | 600 | | 23 | | < 2 | | < 2 | | 1,800 | | 4,900 | |
| | Mar-07 | 600 | | 370 | | 680 | | < 40 | | < 200 | | < 100 | | 4,500 | | 12,000 | |
| | Sep-07 | 1,500 | | 450 | | 880 | | < 40 | | < 40 | | < 40 | | 1,900 | | 5,400 | |
| | May-08 | 510 | | 190 | | 590 | | 18 | | < 2 | | 3 | | 8,800 | | 24,000 | |
| | Dec-08 | 540 | | 150 | | 500 | | 25 | | < 5 | | < 5 | | 3,900 | | 11,000 | |
| | Apr-09 | 460 | | 150 | | 780 | | < 40 | | < 100 | | < 100 | | 2,400 | | 6,300 | |
| | Sep-09 | 440 | | 150 | | 730 | | 49 | | < 10 | | < 10 | | 2,300 | | 6,100 | |
| | Apr-10 | 710 | | 140 | | 530 | | 93 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 350 | | 1,100 | | 780 | | 62 | | < 50 | | < 50 | | 1,900 | | 4,200 | |
| | Jan-12 | 690 | | 770 | | 820 | | 55 | | < 20 | | < 20 | | 2,000 | | 5,800 | |
| | Apr-12 | 280 | | 1,300 | | 1,100 | | 45 | | < 20 | | < 20 | | 1,900 | | 5,500 | |
| | Jul-12 | 37 | | 1,200 | | 1,300 | | 65 | | < 25 | | < 25 | | 890 | | 2,600 | |
| | Oct-12 | 210 | | 1,200 | | 1,800 | | 110 | | < 25 | | < 25 | | 1,800 | | 4,900 | |
| | Jan-13 | 540 | | 480 | | 1,200 | | 69 | | < 25 | | < 25 | | 1,100 | | 3,500 | |
| | Apr-13 | 240 | | 500 | | 1,400 | | 120 | | 2.8 | J | 3.4 | J | 1,000 | | 3,700 | |
| | Jul-13 | 55 | | 790 | | 1,200 | | 88 | | < 1.6 | | < 1.4 | | 760 | | 2,200 | |
| | Oct-13 | 29 | | 440 | | 2,500 | | 76 | | 1.1 | | 1.5 | | 1,000 | | 2,600 | |
| | Jan-14 | 17 | | 300 | | 2,100 | | 190 | | < 1.6 | | < 1.4 | | 1,100 | | 2,700 | |
| | Apr-14 | 22 | | 190 | | 2,000 | | 140 | | <1.6 | | <1.4 | | 960 | | 2,400 | |
| | Oct-14 | 17 | | 35 | | 1,900 | | 130 | | 4.4 | J | <3.3 | | 650 | | 1,800 | |
| | Apr-15 | <7.4 | | 4.9 | J | 2,000 | | 130 | | 5.2 | J | <4.8 | | 580 | | 1,400 | |
| PAN-MW-10 | Feb-91 | 37 | | < 5 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Sep-97 | 10 | | NR | | NR | | < 5 | | NS | | NS | | NS | | NS | |
| | Dec-98 | < 1 | | NR | | NR | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | |
| | Nov-99 | < 5 | | < 5 | | < 2 | | < 2 | | NS | | NS | | NS | | NS | |
| | Oct-00 | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jun-01 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 10 | |
| | Aug-03 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 10 | |
| | Sep-07 | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 5 | |
| | Apr-09 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 5 | |
| | Apr-10 | < 5 | | < 5 | | < 5 | | < 2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.79 | J | 2.6 | | 1.3 | | < 1 | | < 1 | | 3.7 | | < 1 | | 9.9 | |
| | Jan-12 | < 1 | | 0.21 | J | 3.7 | | 0.2 | J | 0.28 | J | 1.2 | | < 1 | | 17 | |
| | Apr-12 | < 1 | | < 1 | | 0.71 | J | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jul-12 | < 1 | | < 1 | | 0.29 | J | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Oct-12 | < 1 | | < 1 | | 1.4 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jan-13 | < 1 | | < 1 | | 1.2 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Apr-13 | < 0.22 | | < 0.20 | | 0.82 | J | < 0.30 | | < 0.18 | | <0.097 | | < 0.15 | | < 0.31 | |
| | Jul-13 | < 0.16 | | < 0.19 | | < 0.21 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Oct-13 | < 0.16 | | < 0.19 | | 0.76 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Jan-14 | < 0.16 | | < 0.19 | | 1.3 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.19 | | <0.14 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.34 | J | <0.18 | | <0.25 | | <0.11 | | <0.33 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Notes:**
**0.79** = Concentration above Minimum Detection Limit (MDL)
**39** = Concentration above RRS
NR = Not Reported by Laboratory
NS = Not Sampled
NL = Not Located
NU = Not Useable due to siltation
NA = Not Avaliable
All data prior to October 2011 tabulated by ERM

## Table 4-5: Historical Groundwater Elevation Table
## VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Groundwater Potentiometric Surface Elevation (ft.) | | | | | | | | | | | | | MW Min.* | MW Max.* | MW Range* | MW Avg.* | MW Var.* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct-11 | Jan-12 | Apr-12 | Jul-12 | Oct-12 | Jan-13 | Apr-13 | Jul-13 | Oct-13 | Jan-14 | Apr-14 | Oct-14 | Apr-15 | | | | | |
| *IW-1R (1)* | NG | NG | NG | NG | NG | NG | NG | NG | NG | NG | NS | NS | NS | NA | NA | NA | NA | NA |
| *IW-18 (1)* | 7.15 | 6.36 | 5.52 | 6.39 | 6.30 | 6.22 | 7.28 | 7.44 | 6.77 | 6.73 | 7.20 | 7.02 | 6.89 | 5.52 | 7.44 | 1.92 | 6.71 | 0.29 |
| *LAW-PZ-8R (1)* | 7.75 | 7.08 | 7.36 | 7.65 | 6.79 | 6.78 | 7.83 | 8.22 | 7.10 | 7.63 | 7.15 | 6.17 | 7.69 | 6.17 | 8.22 | 2.05 | 7.32 | 0.30 |
| *MW-14 (2)*[2] | NL | NL | NL | NL | NL | NL | NL | NL | 3.65 | 2.14 | 2.27 | 2.80 | 2.38 | 2.14 | 3.65 | 1.51 | 2.65 | 0.37 |
| *MW-16 (1)* | 5.67 | 4.36 | 4.31 | 5.24 | 4.34 | 4.04 | 4.72 | 4.91 | 5.15 | 4.40 | 5.09 | 4.70 | 4.98 | 4.04 | 5.67 | 1.63 | 4.76 | 0.22 |
| *MW-17R (1)* | 3.93 | 2.49 | 3.59 | 4.34 | 4.86 | 4.79 | 5.15 | 5.32 | 5.21 | 5.32 | 5.95 | 4.58 | 4.96 | 2.49 | 5.95 | 3.46 | 4.65 | 0.81 |
| *MW-18R (1)* | 7.65 | 6.81 | 7.32 | 7.58 | 6.92 | 6.76 | 7.80 | 8.03 | 7.15 | 7.55 | 8.02 | 7.58 | 7.94 | 6.76 | 8.03 | 1.27 | 7.47 | 0.20 |
| *MW-19 (1)* | 8.11 | 7.29 | 7.91 | 7.98 | 7.78 | 7.17 | 7.97 | 8.12 | 7.53 | 7.86 | 8.55 | 7.95 | 8.22 | 7.17 | 8.55 | 1.38 | 7.88 | 0.14 |
| *MW-23 (1)* | 6.39 | 5.65 | 6.51 | 6.25 | 6.18 | 5.71 | 6.34 | 5.63 | 6.19 | 6.19 | 7.43 | 5.63 | 6.97 | 5.63 | 7.43 | 1.80 | 6.24 | 0.29 |
| *MW-24R (1)* | 5.86 | 5.30 | 5.80 | 5.60 | 5.39 | 5.22 | 5.92 | 5.00 | 5.49 | 5.91 | 6.44 | 6.16 | 6.36 | 5.00 | 6.44 | 1.44 | 5.73 | 0.20 |
| *MW-25 (1)* | 7.91 | 7.14 | 7.81 | 7.93 | 7.64 | 7.12 | 8.05 | 8.20 | 7.41 | 7.84 | 8.43 | 7.96 | 8.25 | 7.12 | 8.43 | 1.31 | 7.82 | 0.16 |
| *MW-26R (1)* | 7.39 | 6.48 | 7.17 | 7.21 | 6.58 | 6.41 | 7.44 | 8.09 | 7.88 | 7.48 | 8.00 | 7.67 | 7.47 | 6.41 | 8.09 | 1.68 | 7.33 | 0.31 |
| *MW-27 (1)* | 5.06 | 4.10 | 4.89 | 4.77 | 4.42 | 4.30 | 4.66 | 4.47 | 4.58 | 4.61 | 5.66 | 5.45 | 5.30 | 4.10 | 5.66 | 1.56 | 4.79 | 0.22 |
| *MW-28 (2)* | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NS | NS | NA | NA | NA | NA | NA |
| *MW-29 (0.75)* | 5.71 | 5.01 | 5.38 | 5.27 | 4.91 | 4.67 | 5.48 | 5.12 | 5.21 | 5.43 | 5.83 | 5.91 | 5.69 | 4.67 | 5.91 | 1.24 | 5.36 | 0.14 |
| *MW-30 (2)* | 6.28 | 5.60 | 5.99 | 6.09 | 5.75 | 5.29 | 6.18 | 6.27 | 6.76 | 6.23 | 6.63 | 6.28 | 6.18 | 5.29 | 6.76 | 1.47 | 6.12 | 0.16 |
| *MW-31 (2)* | 4.41 | 3.94 | 4.17 | 4.48 | 4.26 | 3.92 | 4.42 | 4.32 | NG | 4.47 | 5.05 | 5.11 | 5.19 | 3.92 | 5.19 | 1.27 | 4.48 | 0.18 |
| *MW-32 (2)* | 5.23 | 4.53 | 5.24 | 5.49 | 5.00 | 4.75 | 5.32 | 5.15 | 5.04 | 5.23 | 5.73 | 5.60 | 6.21 | 4.53 | 6.21 | 1.68 | 5.27 | 0.18 |
| *MW-33 (2)* | 6.54 | 5.67 | 6.17 | 5.90 | 5.05 | 5.07 | 6.60 | 6.41 | 7.07 | 6.24 | 7.02 | 6.48 | 6.58 | 5.05 | 7.07 | 2.02 | 6.22 | 0.41 |
| *MW-34 (2)* | 7.40 | 6.81 | 7.00 | 7.29 | 6.53 | 6.53 | 7.52 | 7.73 | 6.86 | 7.41 | 7.94 | 7.69 | 7.53 | 6.53 | 7.94 | 1.41 | 7.25 | 0.21 |
| *MW-35 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 4.77 | 4.73 | 4.91 | 4.93 | 4.73 | 4.93 | 0.20 | 4.84 | 0.01 |
| *MW-36 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 1.89 | 3.44 | 3.71 | 3.94 | 1.89 | 3.94 | 2.05 | 3.25 | 0.86 |
| *MW-37 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 7.42 | 7.88 | 7.77 | 7.60 | 7.42 | 7.88 | 0.46 | 7.67 | 0.04 |
| *PAN-MW-10 (2)* | 3.45 | 2.47 | 2.94 | 3.51 | 3.19 | 3.35 | 3.43 | 3.82 | 3.53 | 3.50 | 4.13 | 4.37 | 6.10 | 2.47 | 6.10 | 3.63 | 3.68 | 0.76 |
| *PAN-MW-9 (2)* | 6.24 | 5.39 | 5.74 | 5.98 | 5.54 | 5.32 | 6.07 | 5.86 | 5.93 | 6.23 | 6.57 | 6.41 | 5.57 | 5.32 | 6.57 | 1.25 | 5.91 | 0.15 |
| **Event Min.*[3]** | 3.45 | 2.47 | 2.94 | 3.51 | 3.19 | 3.35 | 3.43 | 3.82 | 3.53 | 1.89 | 3.44 | 3.71 | 3.94 | **Global Min.*[4]** | | 1.89 | | |
| **Event Max.*[3]** | 8.11 | 7.29 | 7.91 | 7.98 | 7.78 | 7.17 | 8.05 | 8.22 | 7.88 | 7.86 | 8.55 | 7.96 | 8.25 | **Global Max.*[4]** | | 8.55 | | |
| **Event Range*[3]** | 4.66 | 4.82 | 4.97 | 4.47 | 4.59 | 3.82 | 4.62 | 4.40 | 4.35 | 5.97 | 5.11 | 4.25 | 4.31 | **Global Range*[4]** | | 6.66 | | |
| **Event Avg.*[3]** | 6.22 | 5.39 | 5.83 | 6.05 | 5.65 | 5.44 | 6.22 | 6.22 | 6.16 | 5.92 | 6.49 | 6.14 | 6.39 | **Global Avg.*[4]** | | 6.01 | | |
| **Event Var.*[3]** | 1.88 | 2.14 | 2.03 | 1.69 | 1.50 | 1.32 | 1.90 | 2.30 | 1.43 | 2.46 | 2.04 | 1.63 | 1.50 | **Global Var.*[4]** | | 2.04 | | |

**Notes:**

NI - Not Installed

NS - Not Surveyed, TOC elevation information is not available for well

NL - Not Located

NA - Not Applicable

NG - Not Gauged

*** = Event Min, Max, Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for each respective groundwater gauging event.

*[2] = MW-14 is considered a deep well at the Site and is not considered for the shallow potentiometric surface at the Site

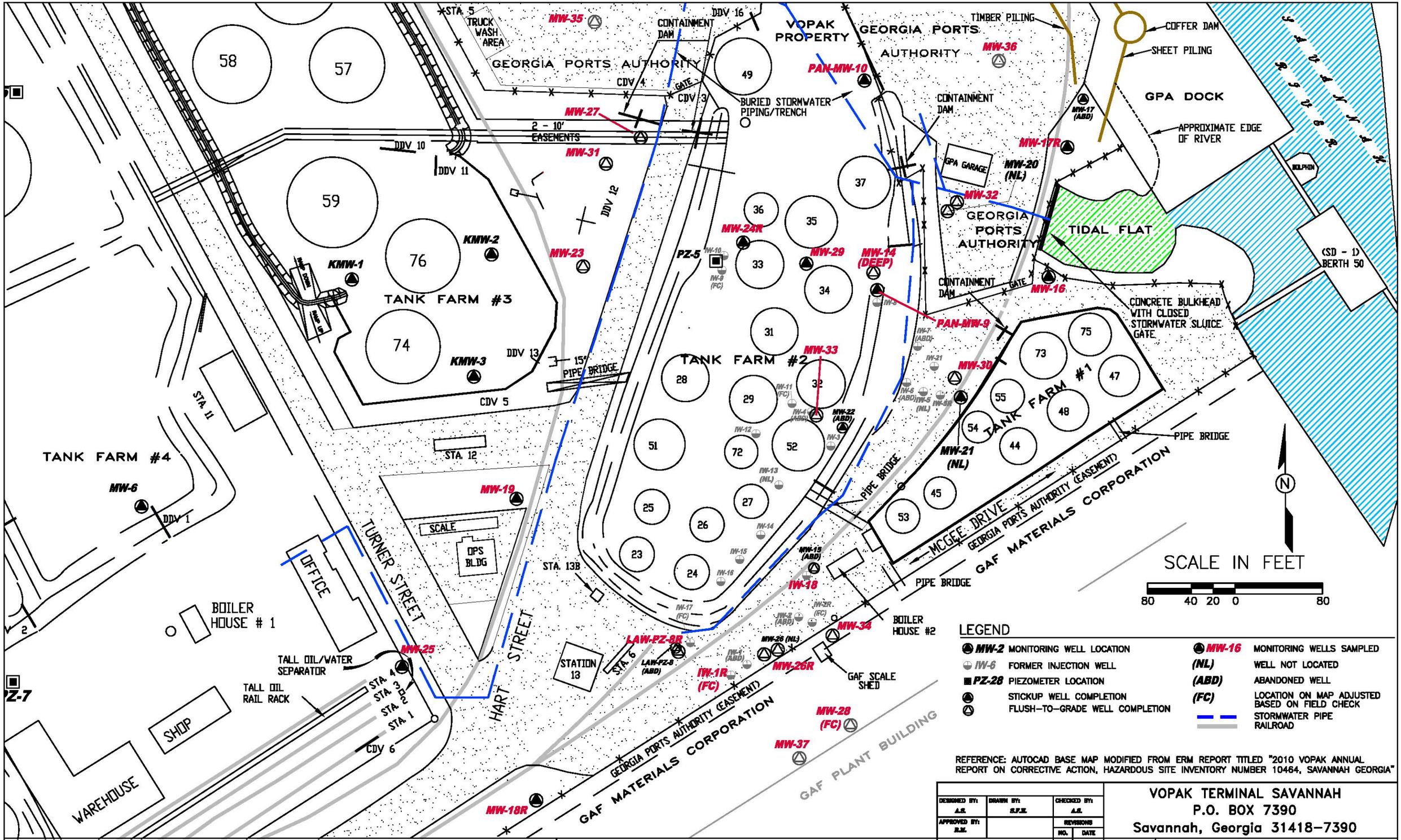
***[3] = MW Min., Max., Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for each monitoring well throughout all gauging events from October 2011 to April 2015 where available.

***[4]= Global Min., Max., Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for all monitoring wells throughout all events from October 2011 to April 2015

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# EIGHTH SEMI-ANNUAL PROGRESS REPORT

# FIGURES




## LEGEND

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| MW-16 | MONITORING WELLS SAMPLED |
| (NL) | WELL NOT LOCATED |
| (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| | STORMWATER PIPE |
| | RAILROAD |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

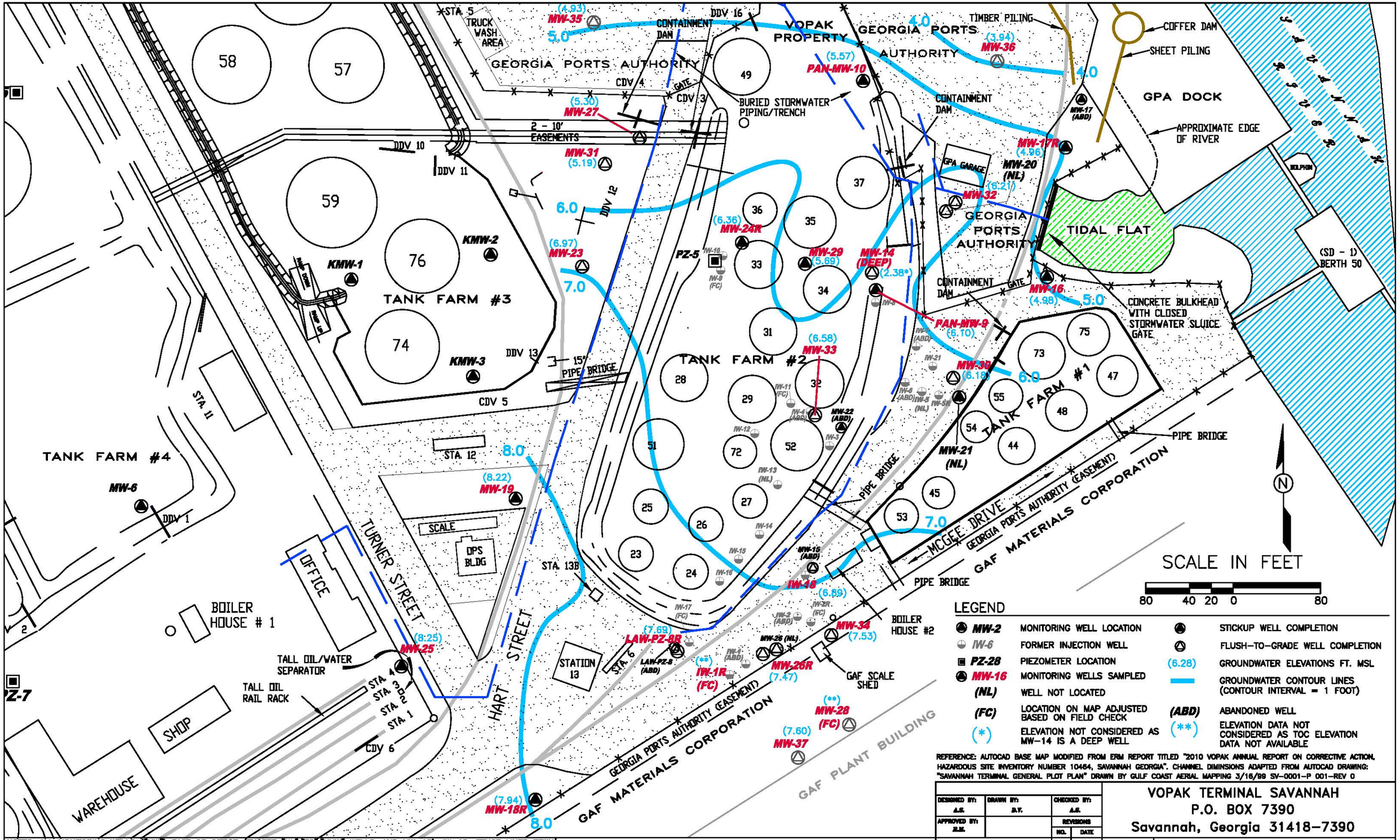
# FIGURE 4-1:
# MARCH 30 – APRIL 2 2015
# SITE MAP

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.E. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 04/06/2015 | FILE: 390080- GW MONITORING | SHEET NO.:




LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH–TO–GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (6.28) | GROUNDWATER ELEVATIONS FT. MSL |
| MW-16 | MONITORING WELLS SAMPLED | | GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL = 1 FOOT) |
| (NL) | WELL NOT LOCATED | | |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (ABD) | ABANDONED WELL |
| (*) | ELEVATION NOT CONSIDERED AS MW–14 IS A DEEP WELL | (**) | ELEVATION DATA NOT CONSIDERED AS TOC ELEVATION DATA NOT AVAILABLE |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV–0001–P 001–REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW–15), IW–18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW–14, MW–26R, MW–30, MW–33, AND INJECTION WELLS ("IW"), IW2–R, IW5–R, IW–6, IW–7, IW–8, AND IW–21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS–BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW–35, MW–36, AND MW–37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW–28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS. GROUNDWATER POTENTIOMETRIC SUREFACE ELEVATIONS ARE IN NGVD29 DATUM

# FIGURE 4–2
## GROUNDWATER POTENTIOMETRIC SURFACE MAP
## MARCH 30–APRIL 3, 2015

| | | |
|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: B.V. | CHECKED BY: A.S. |
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

SEAL:

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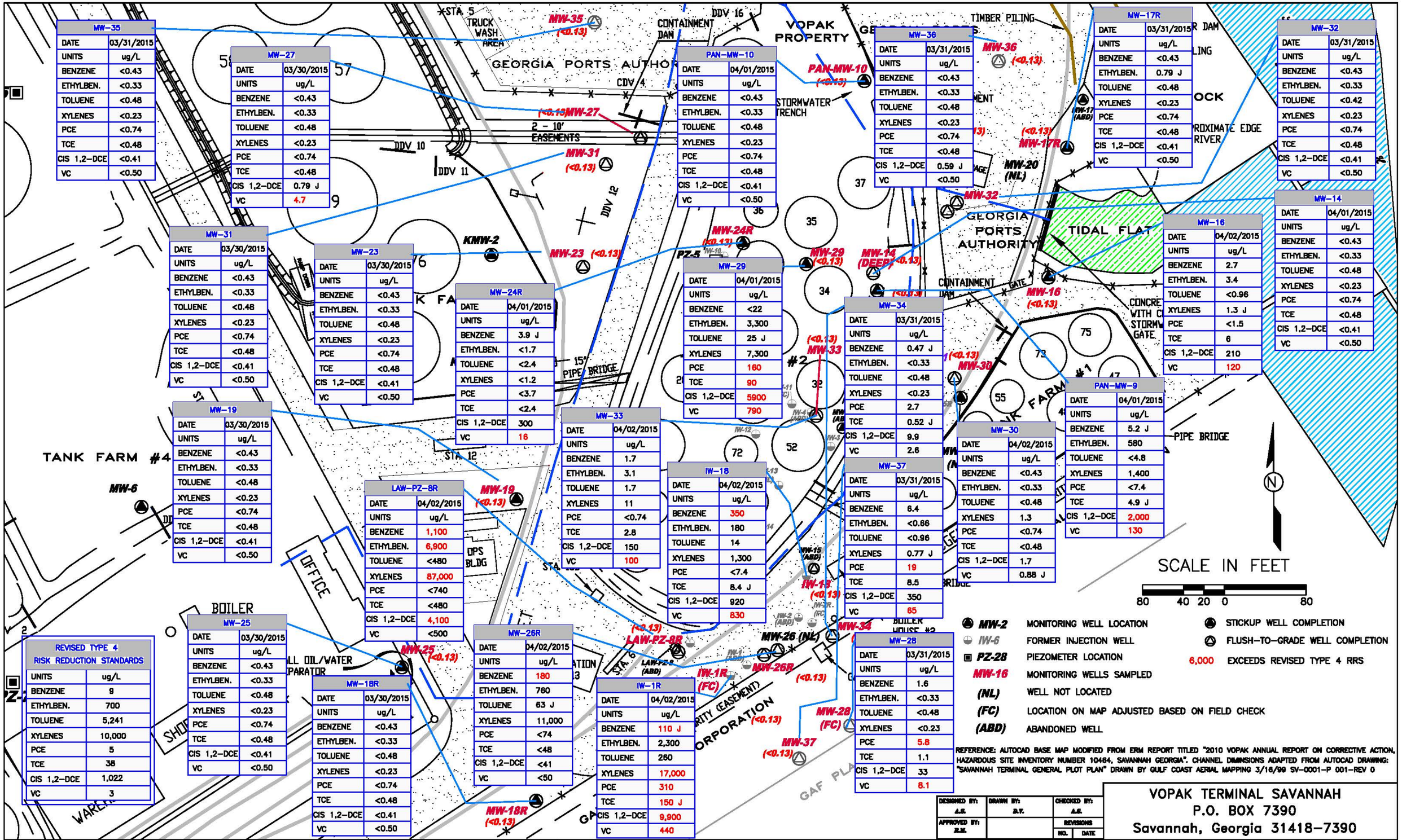
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 4/7/2015 | FILE: 300080 – 7TH SEMI–ANNUAL RPT | SHEET NO.:




NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-3:
# GROUNDWATER ANALYTICAL RESULTS
# MARCH 30-APRIL 2, 2015

| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | B.V. | A.S. |
| APPROVED BY: | | REVISIONS NO. / DATE |
| R.M. | | |

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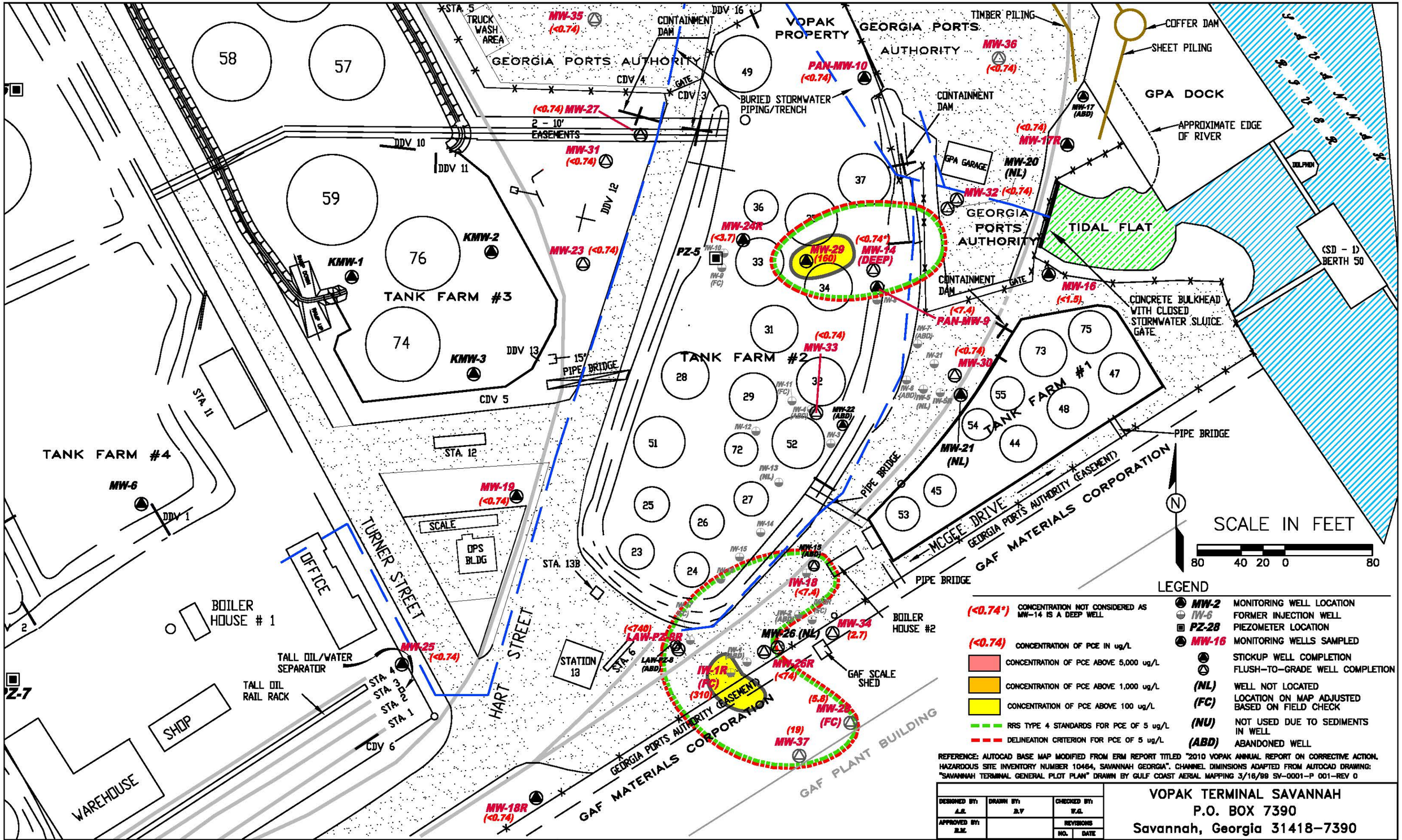
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 04/15/2015 | FILE: 390080 - 8TH SEMI ANNUAL | SHEET NO.:




NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 8/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-4:
# PCE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

## LEGEND

| | |
|---|---|
| (<0.74*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (<0.74) | CONCENTRATION OF PCE IN ug/L |
| | CONCENTRATION OF PCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF PCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF PCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR PCE OF 5 ug/L |
| | DELINEATION CRITERION FOR PCE OF 5 ug/L |

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (NU) | NOT USED DUE TO SEDIMENTS IN WELL |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

| | | | |
|---|---|---|---|
| DESIGNED BY: A.E. | DRAWN BY: B.V | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

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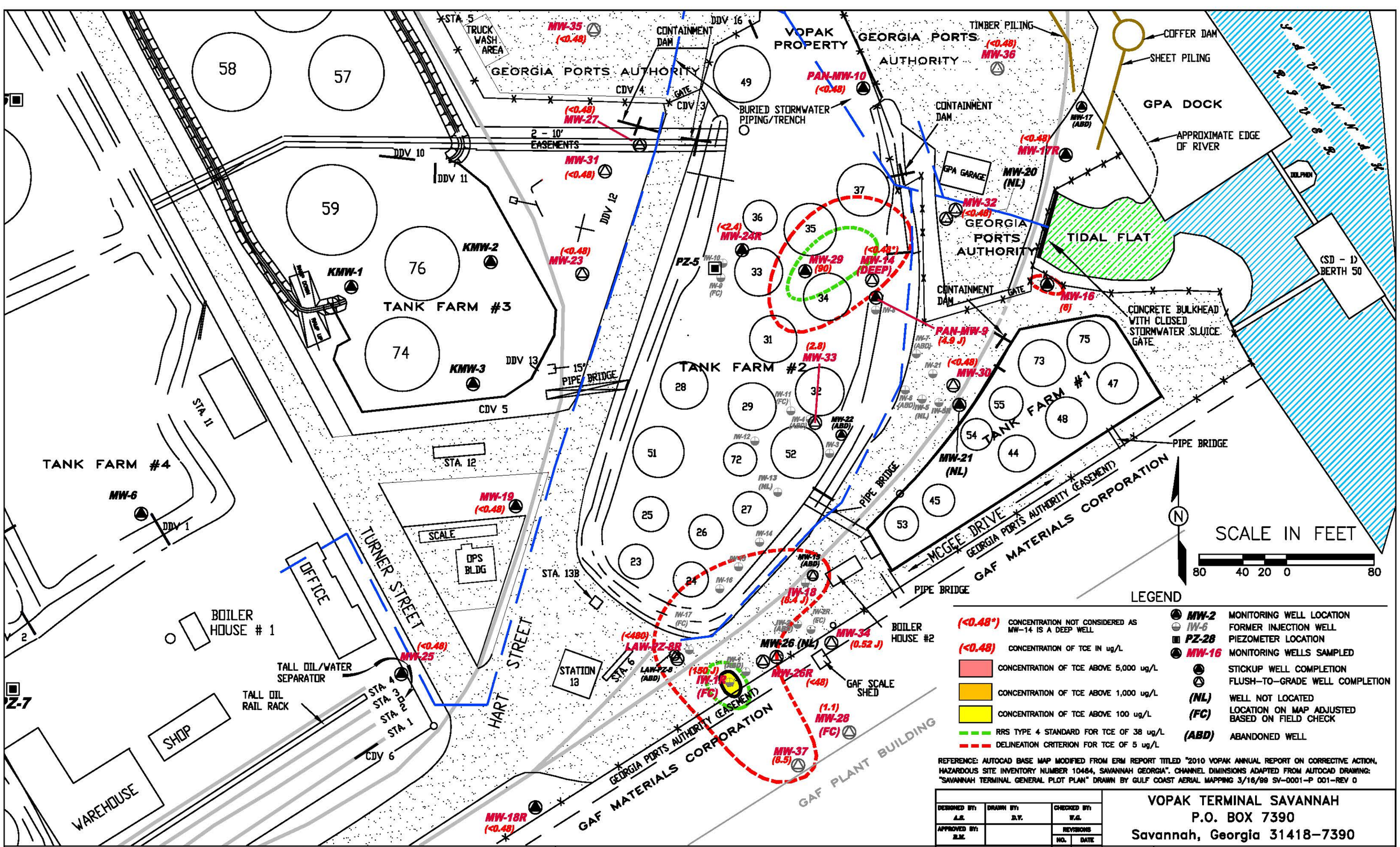
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 04/16/2015 | 360080 - 8TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.48*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (<0.48) | CONCENTRATION OF TCE IN ug/L |
| | CONCENTRATION OF TCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF TCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF TCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR TCE OF 38 ug/L |
| | DELINEATION CRITERION FOR TCE OF 5 ug/L |

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-5:
# TCE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

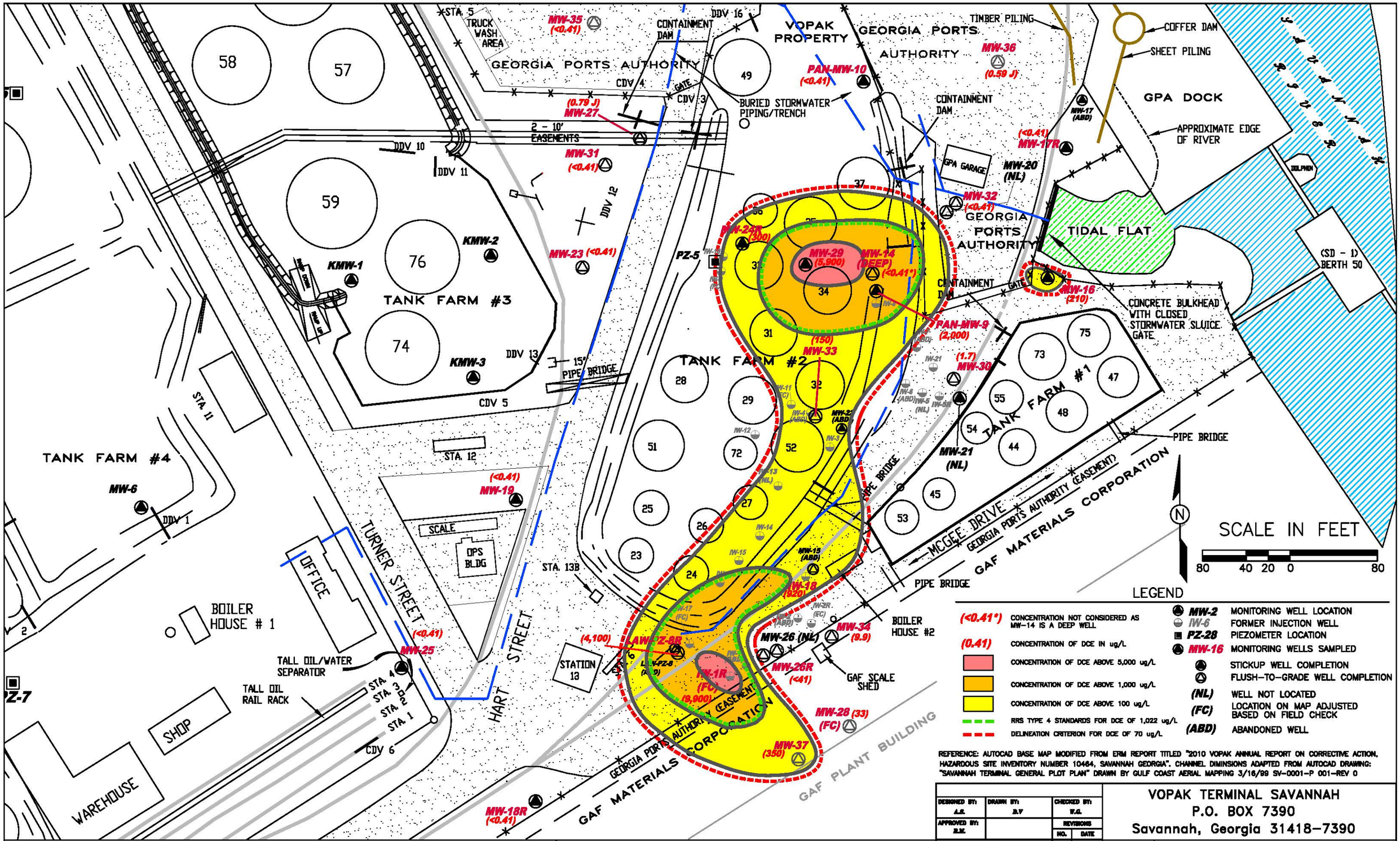
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: D.V. | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 4/16/2015 | 390020 - 9TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.41*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.41) | CONCENTRATION OF DCE IN ug/L |
| | CONCENTRATION OF DCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF DCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF DCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR DCE OF 1,022 ug/L |
| | DELINEATION CRITERION FOR DCE OF 70 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-6:
# CIS-1, 2 DCE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

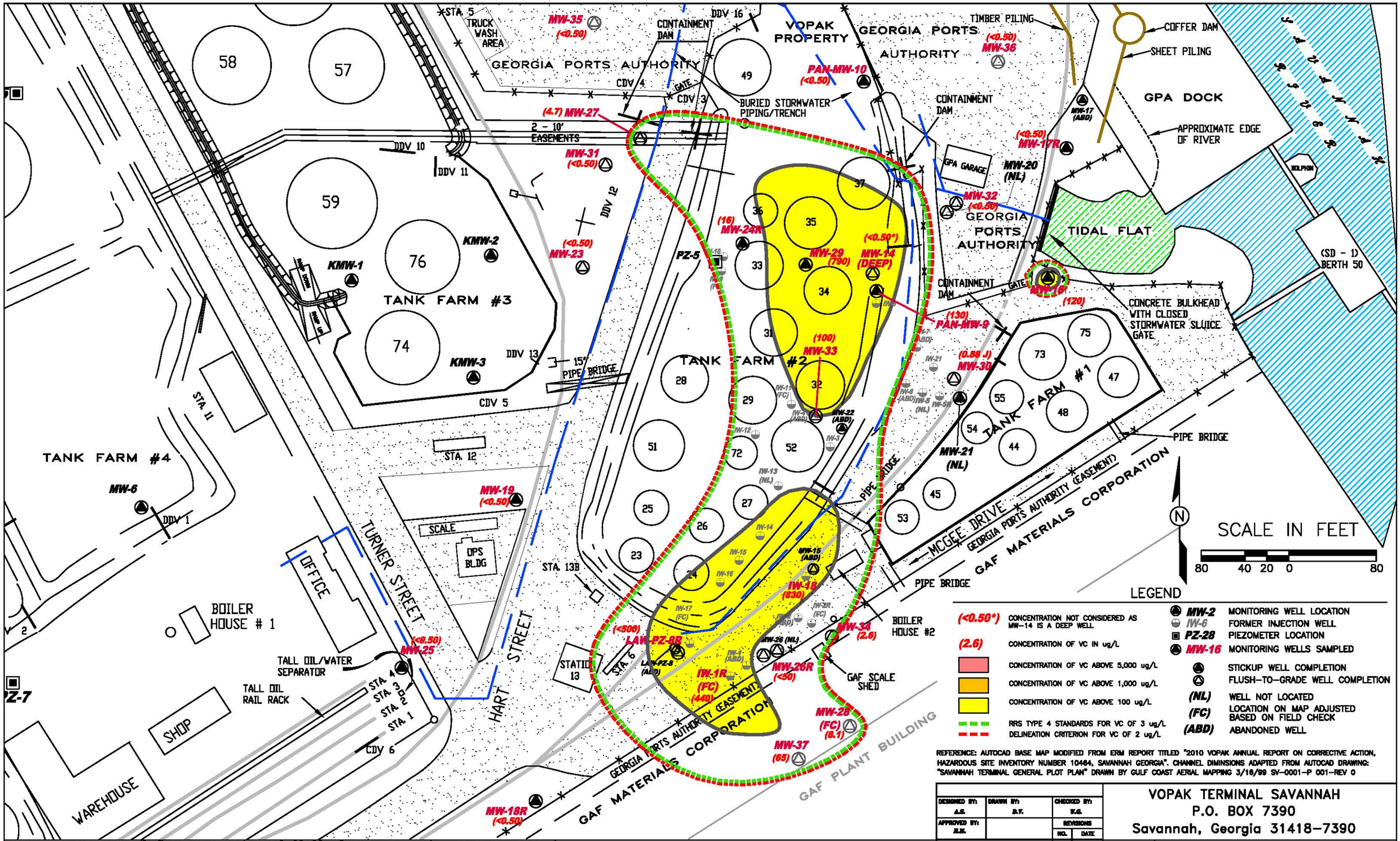
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: B.V | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

SEAL:

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 04/16/2015 | FILE: 390080 - 9TH SEMI-ANNUAL RPT | SHEET NO.:




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-7:
# VINYL CHLORIDE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

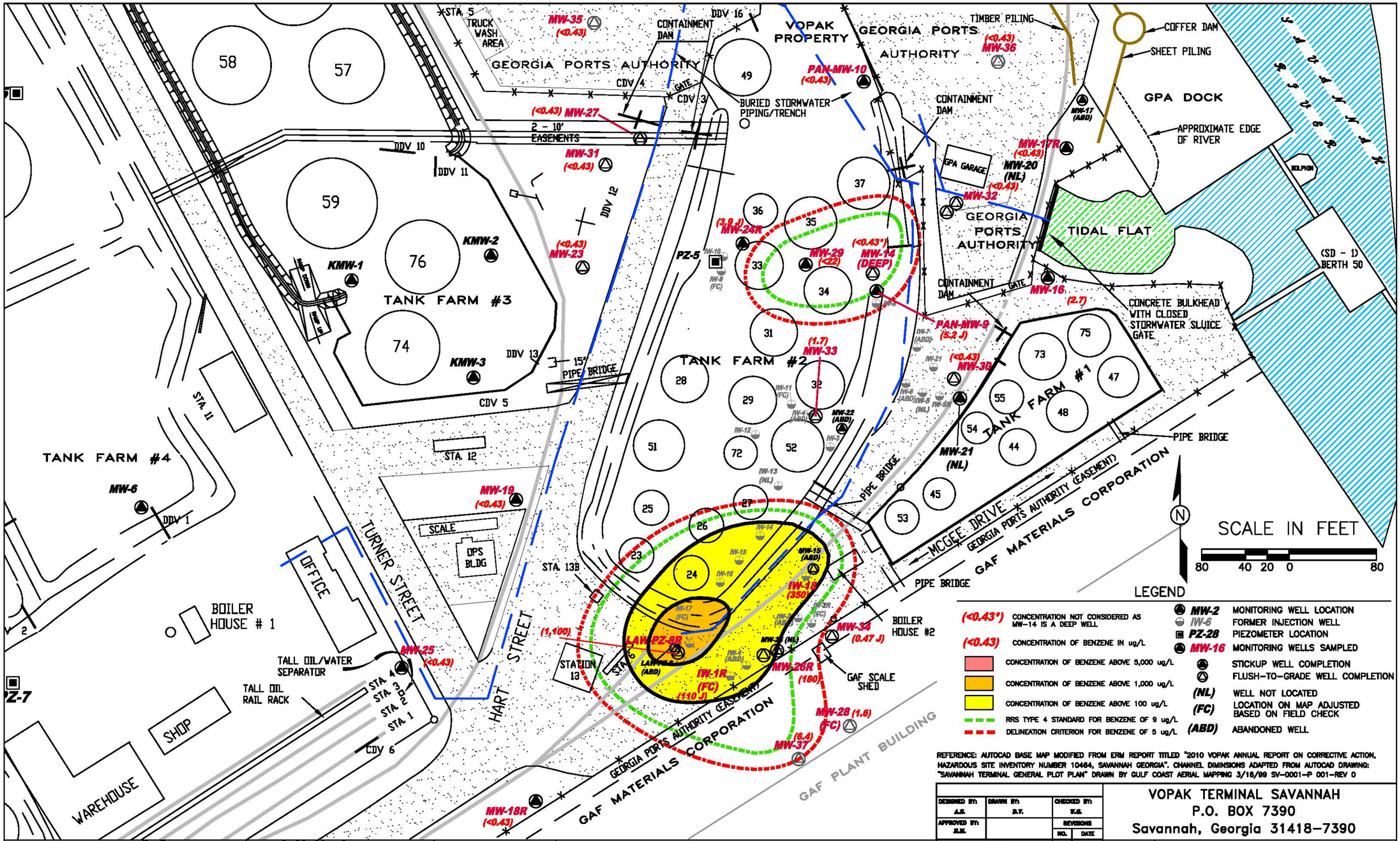
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: B.V. | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

SEAL:

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 04/16/2015 | FILE: 390080 - 8TH SEMI-ANNUAL RPT | SHEET NO.:




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-8:
# BENZENE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

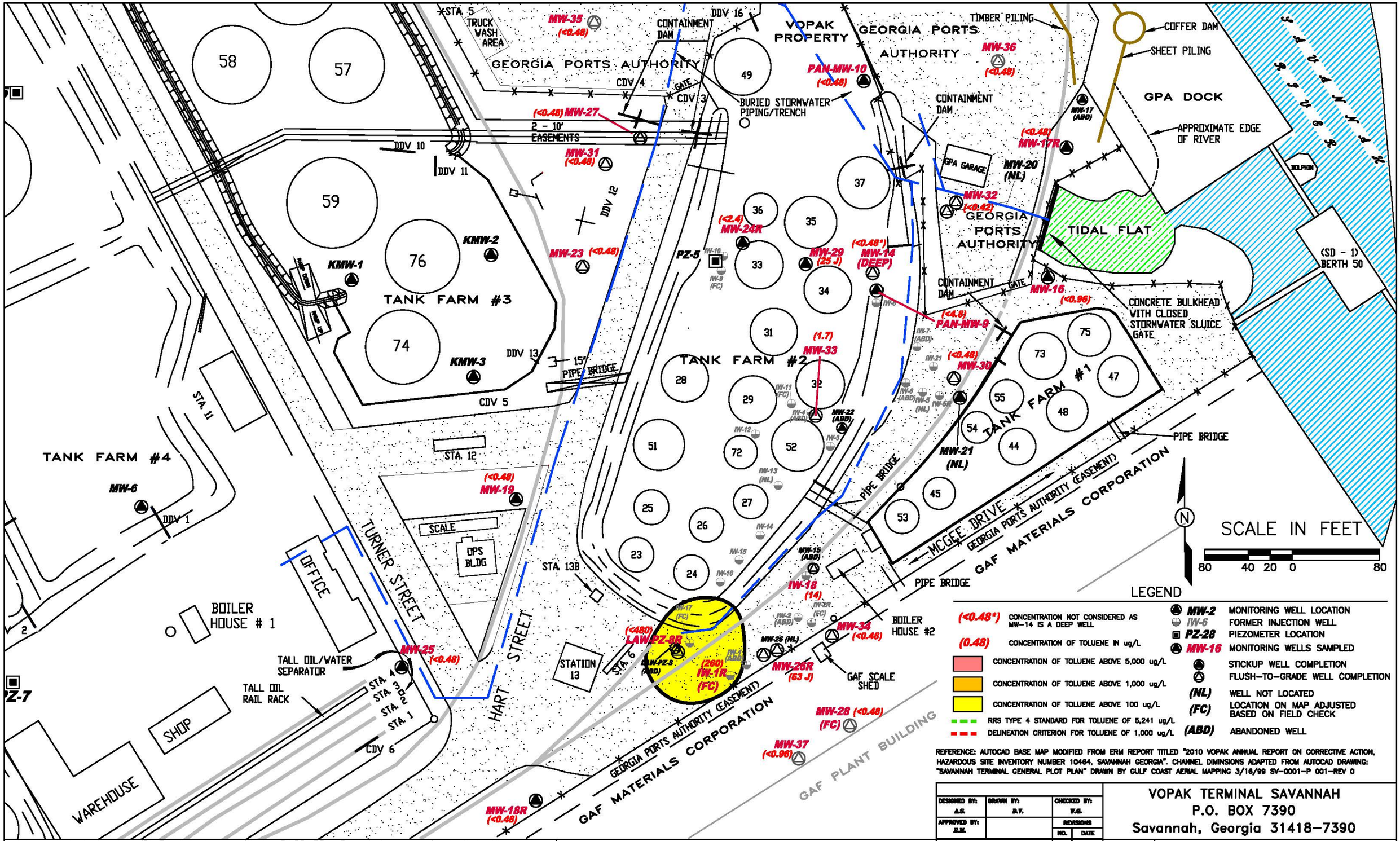
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: B.V. | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 04/16/2015 | FILE: 390080 - 8TH SEMI-ANNUAL RPT | SHEET NO.:




LEGEND

| | |
|---|---|
| (<0.48*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.48) | CONCENTRATION OF TOLUENE IN ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR TOLUENE OF 5,241 ug/L |
| | DELINEATION CRITERION FOR TOLUENE OF 1,000 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

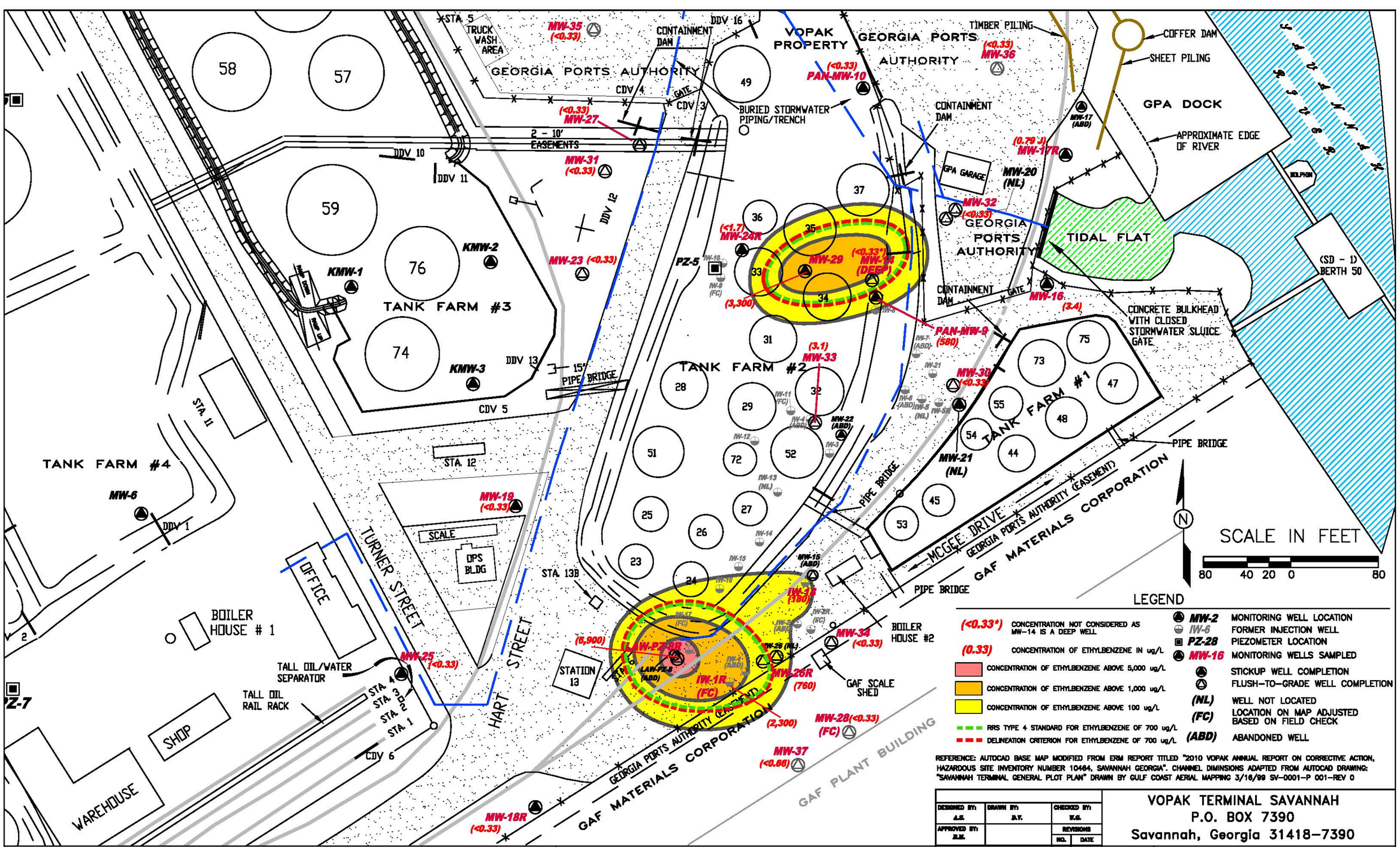
# FIGURE 4-9:
# TOLUENE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: B.V. | CHECKED BY: W.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 04/16/2015 | 300080 - 8TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.33*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.33) | CONCENTRATION OF ETHYLBENZENE IN ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR ETHYLBENZENE OF 700 ug/L |
| | DELINEATION CRITERION FOR ETHYLBENZENE OF 700 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-10:
# ETHYLBENZENE ISOCONCENTTRAION MAP
# MARCH 30-APRIL 2, 2015

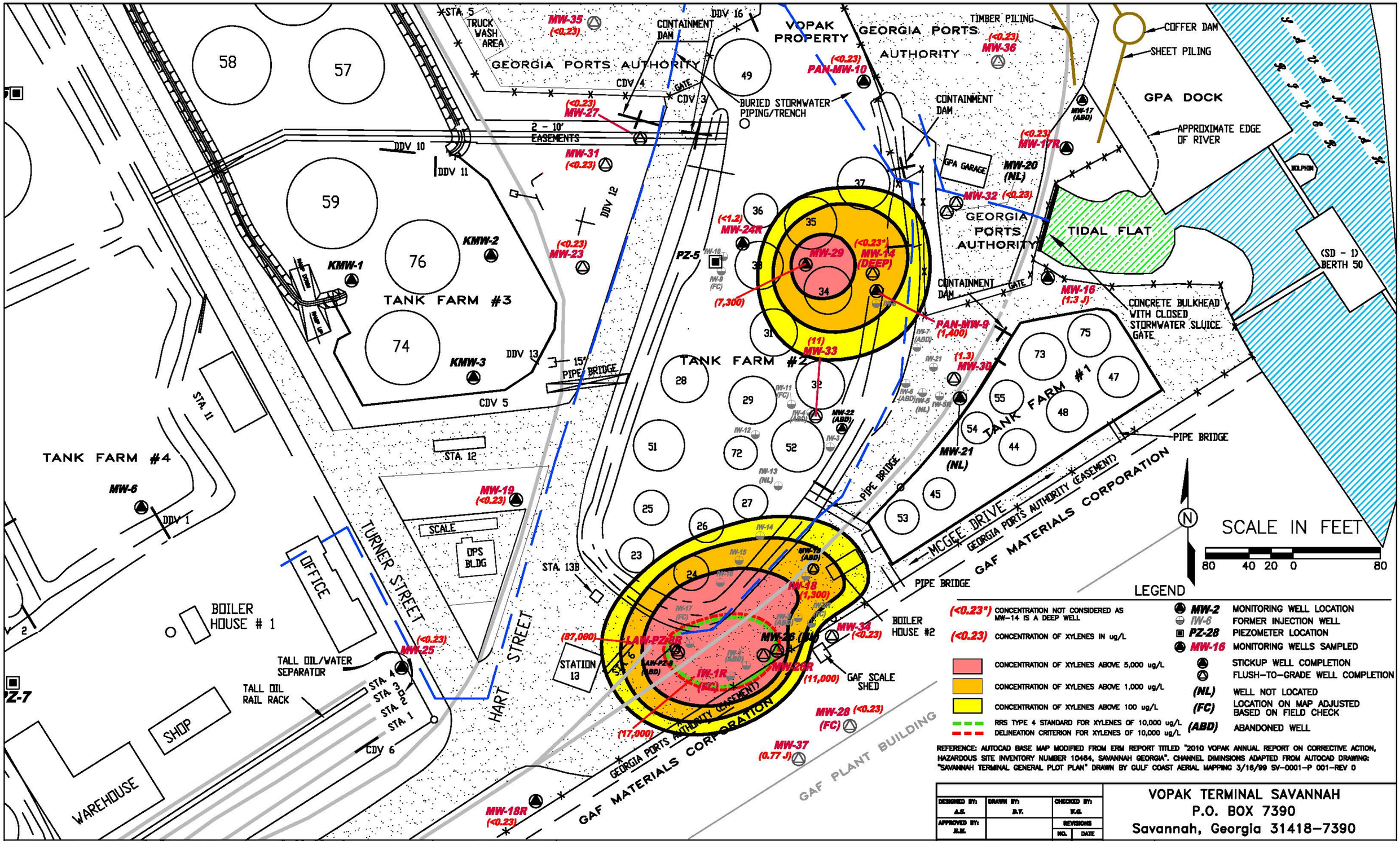
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: B.V. | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

SEAL:

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 04/16/2015 | FILE: 390080 - 8TH SEMI-ANNUAL RPT | SHEET NO.:




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/18/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 4-11:
# TOTAL XYLENES ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: B.V. | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

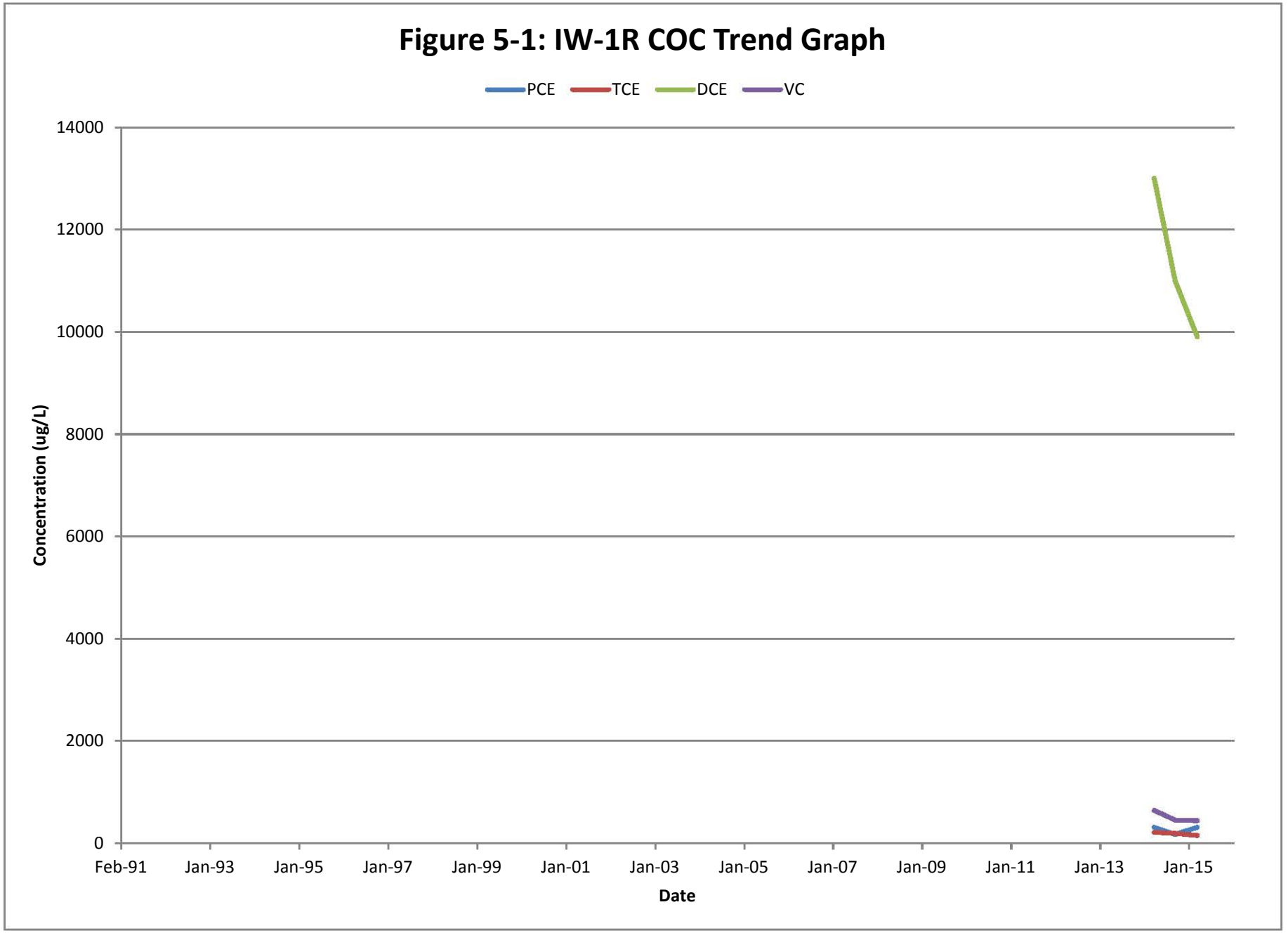
SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

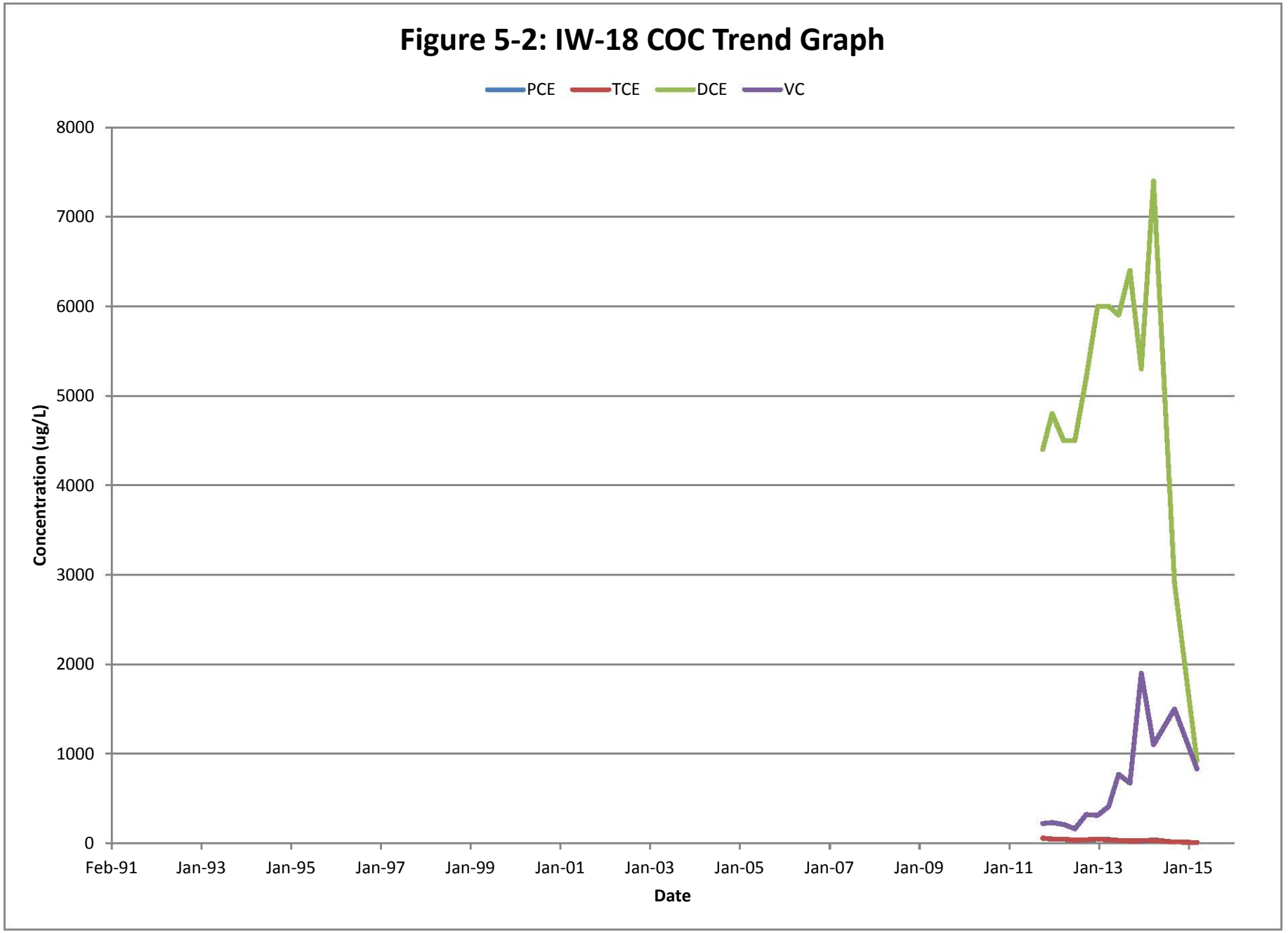
ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

SCALE: SEE BAR SCALE | DATE: 04/16/2015 | FILE: 390080 - 8TH SEMI-ANNUAL RPT | SHEET NO.:

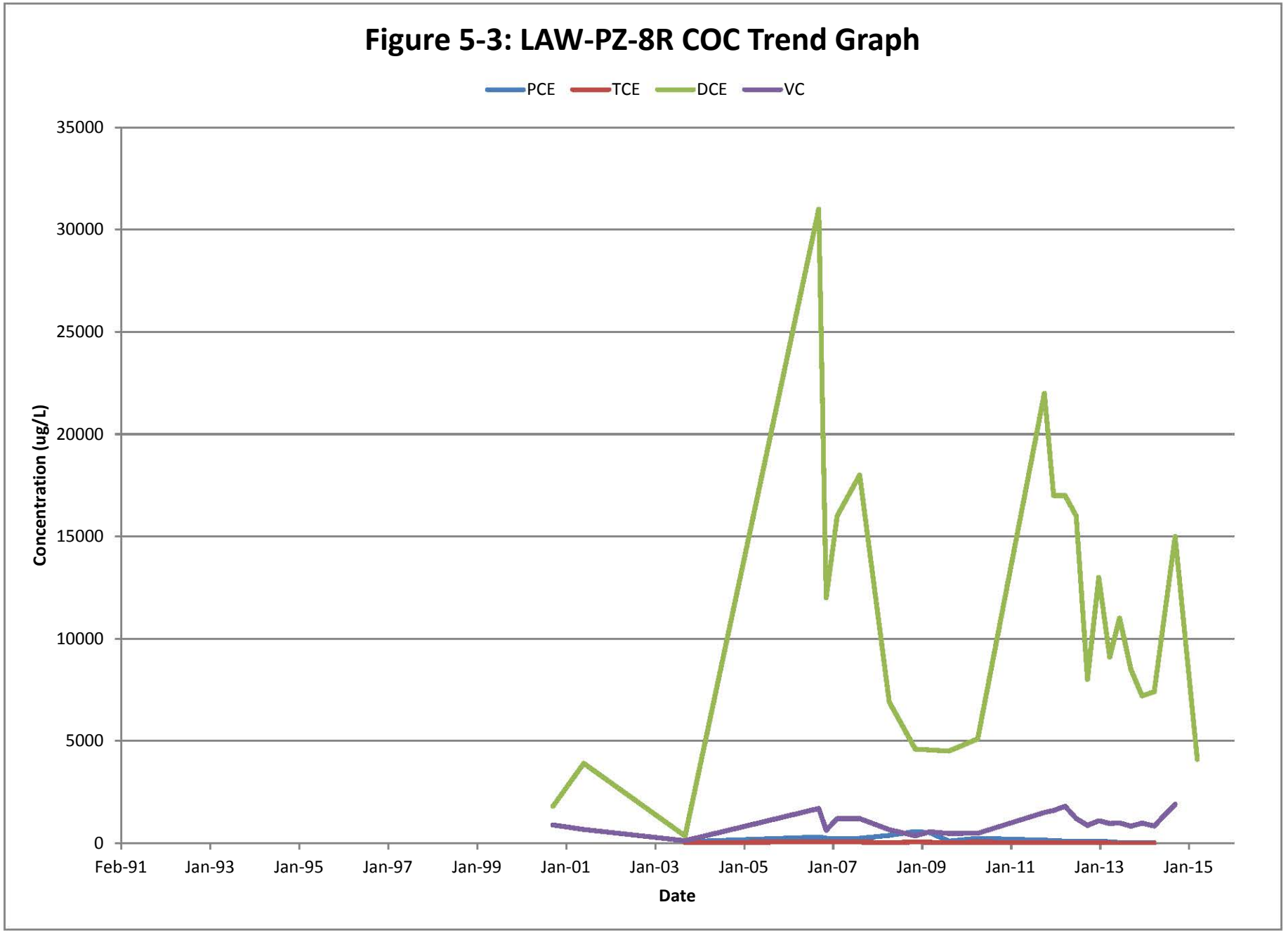
# Figure 5-1: IW-1R COC Trend Graph



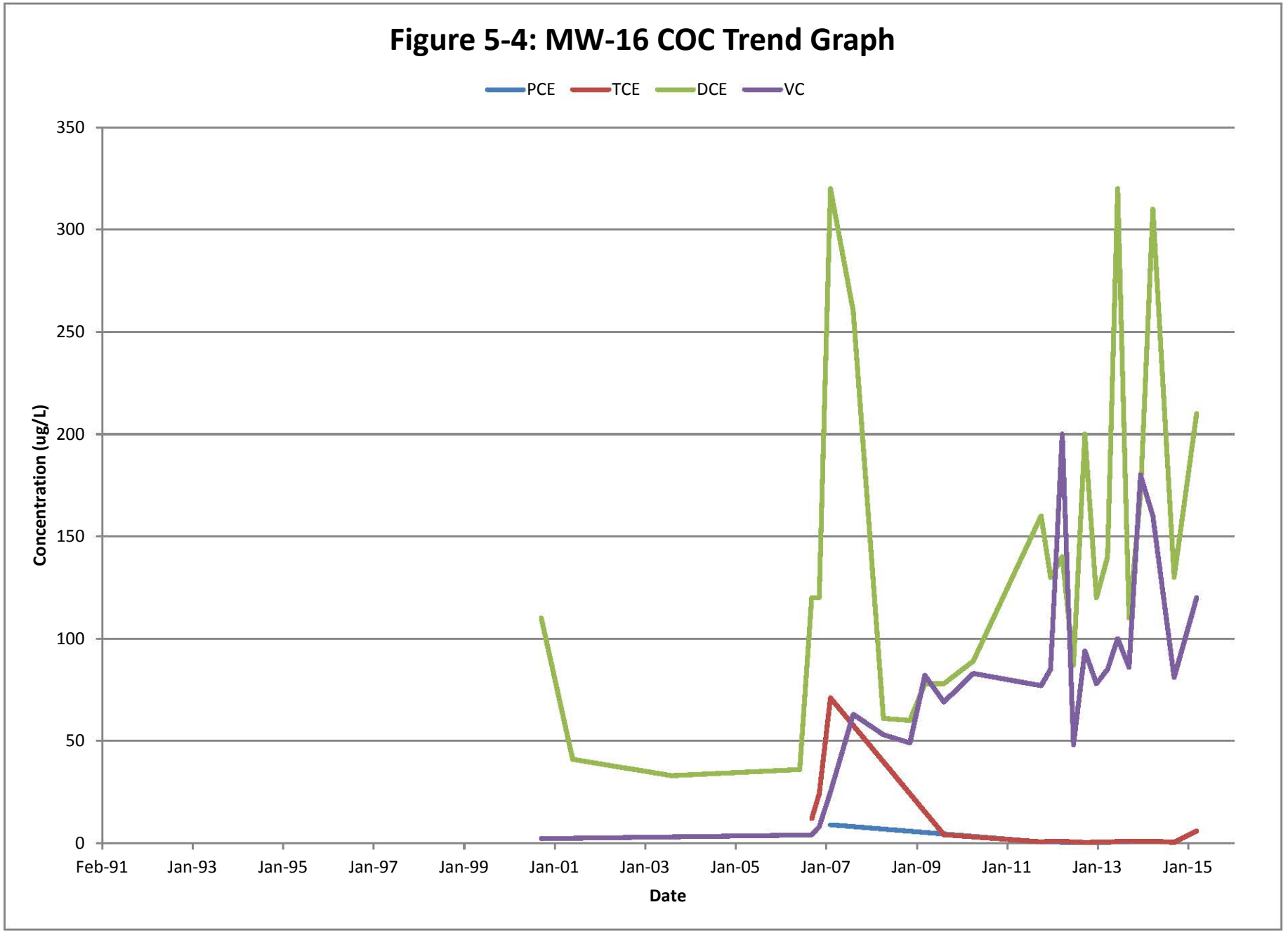
# Figure 5-2: IW-18 COC Trend Graph



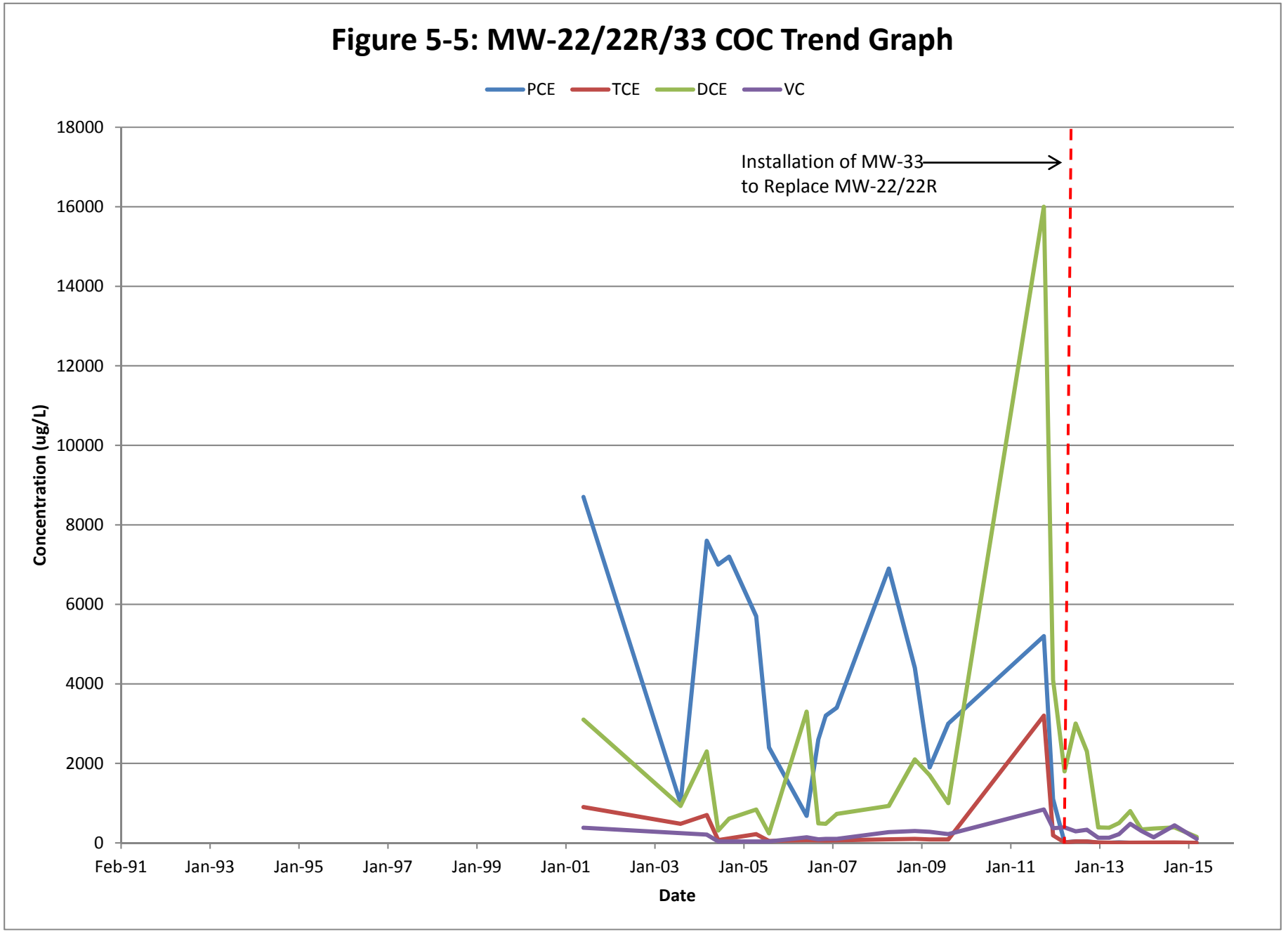
# Figure 5-3: LAW-PZ-8R COC Trend Graph



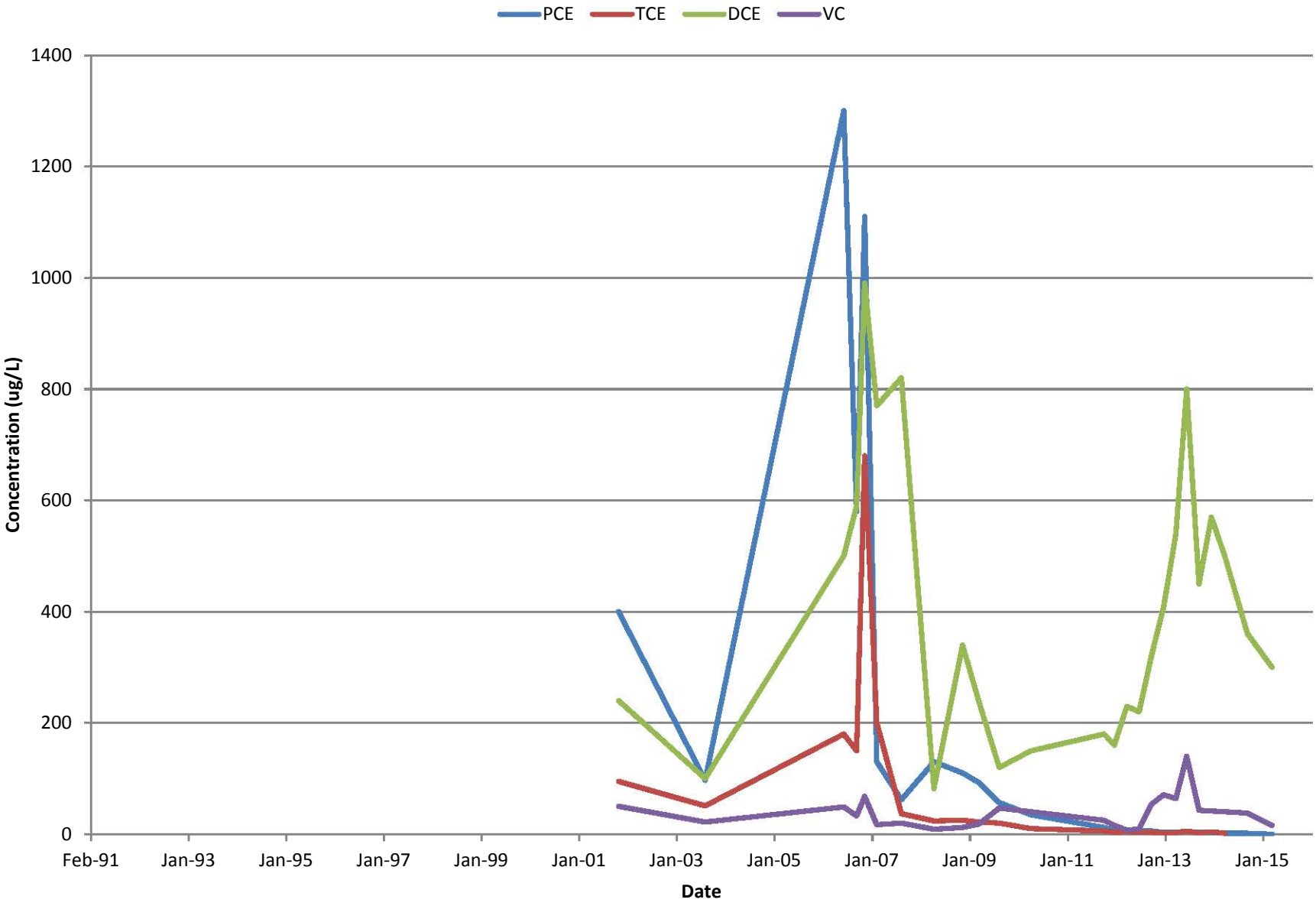
# Figure 5-4: MW-16 COC Trend Graph



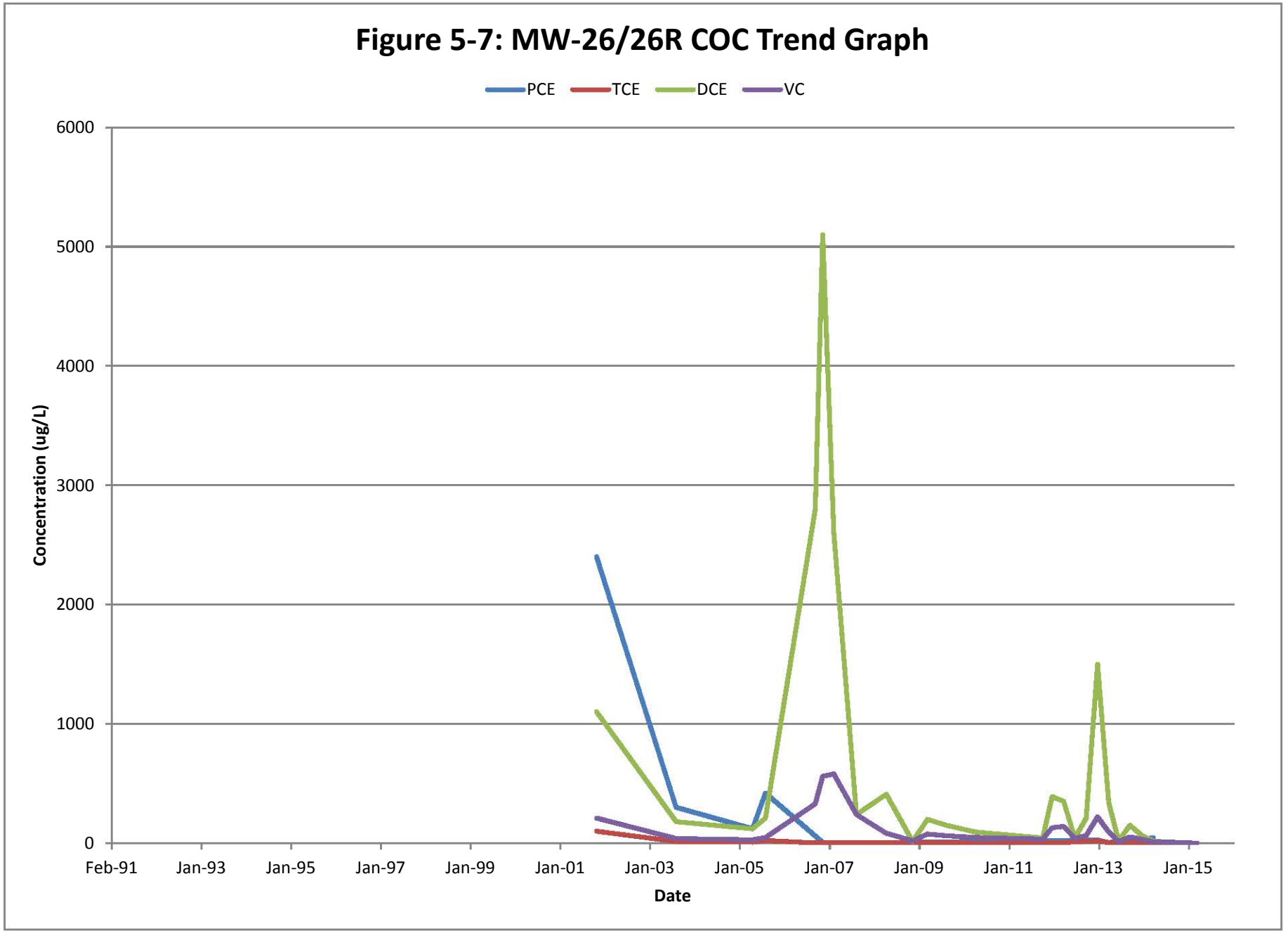
# Figure 5-5: MW-22/22R/33 COC Trend Graph



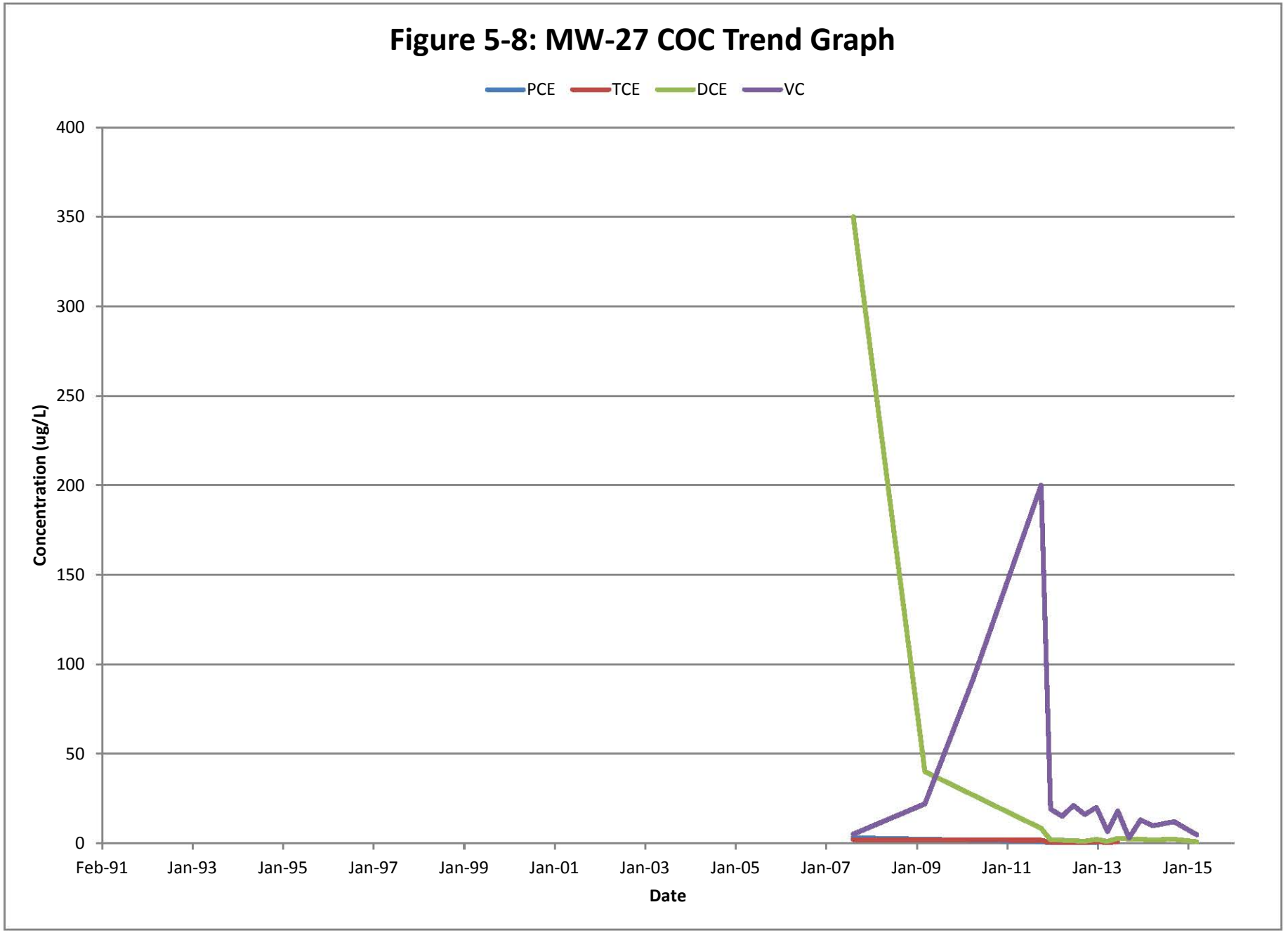
# Figure 5-6: MW-24/24R COC Trend Graph



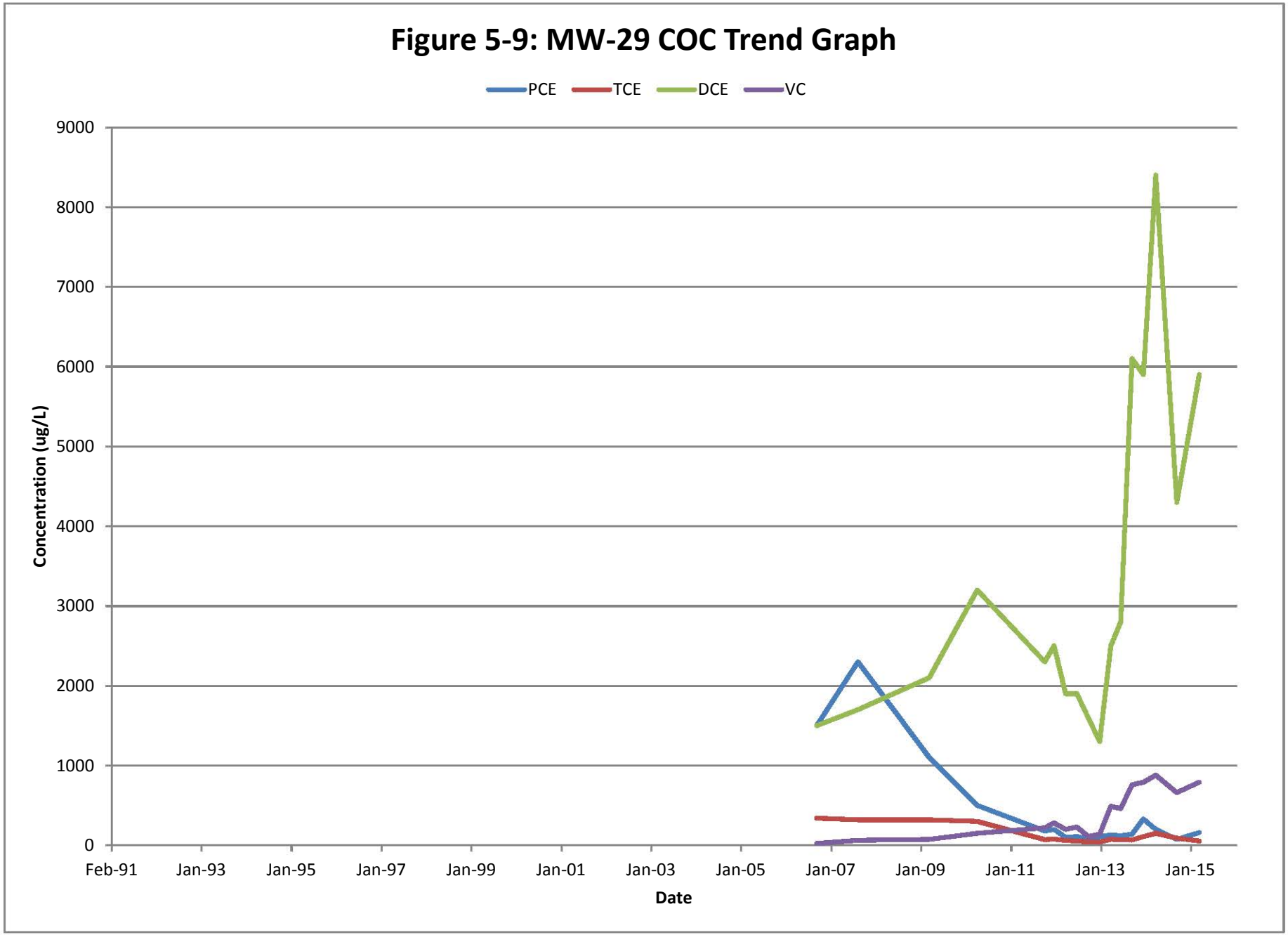
# Figure 5-7: MW-26/26R COC Trend Graph



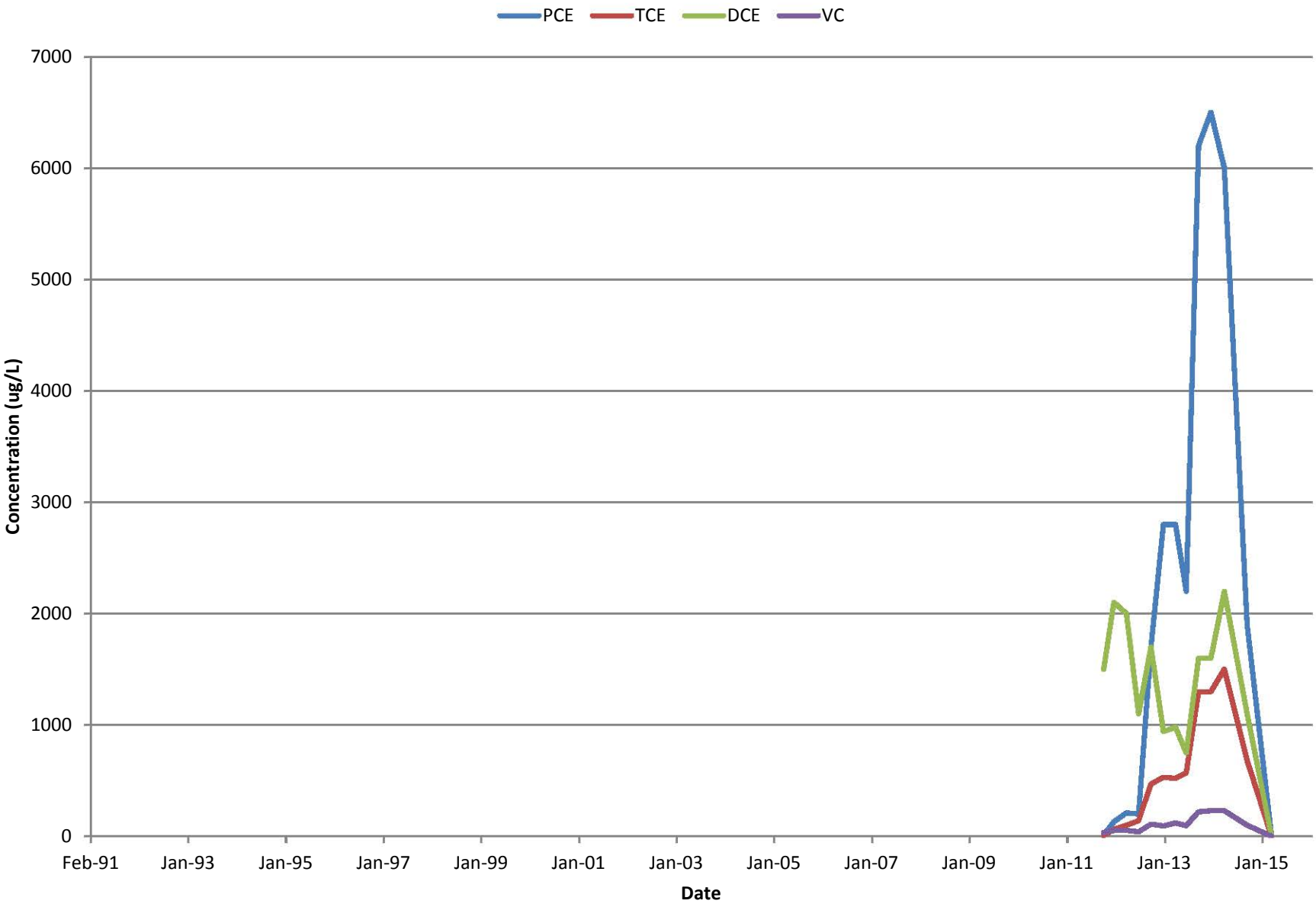
# Figure 5-8: MW-27 COC Trend Graph



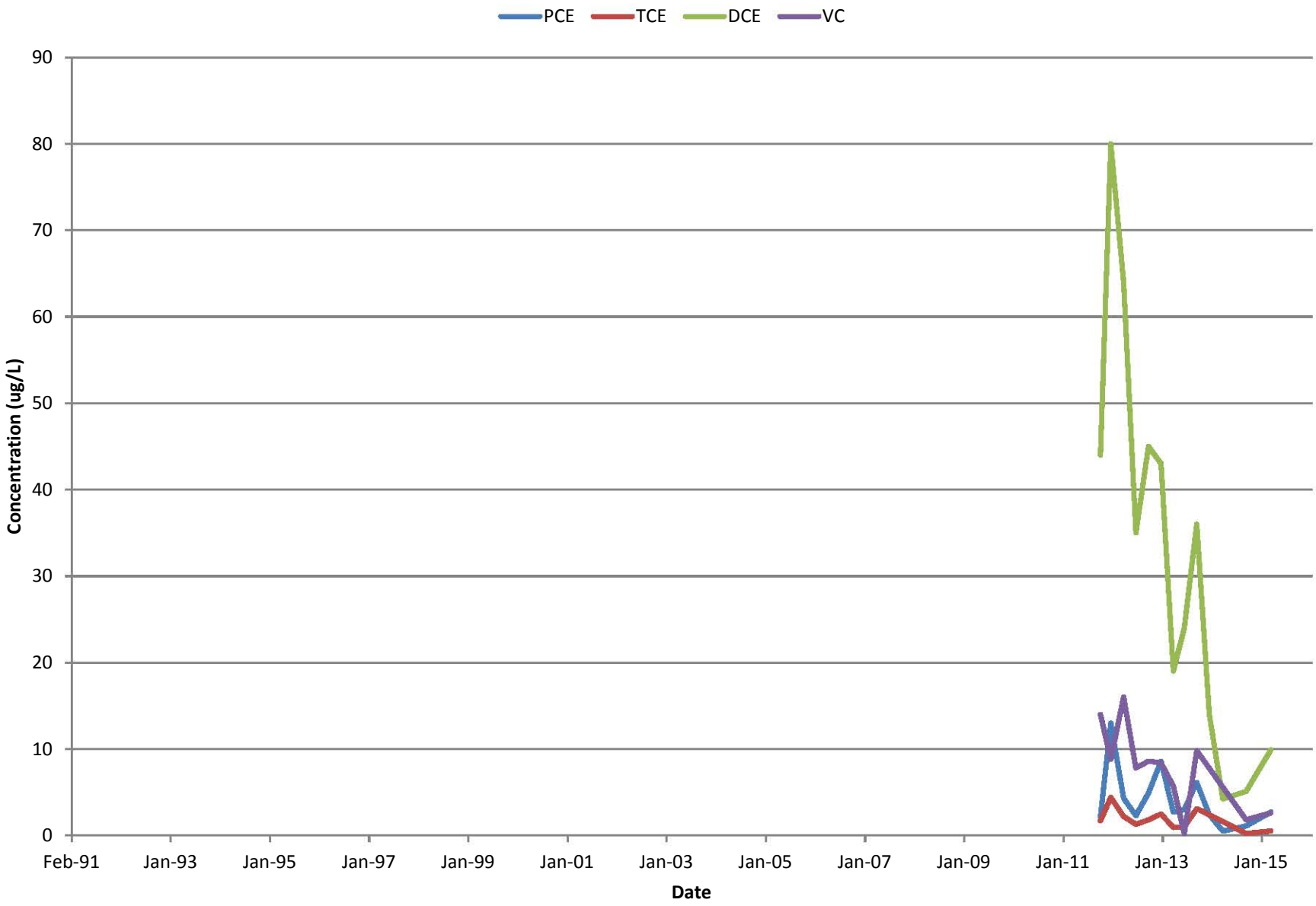
# Figure 5-9: MW-29 COC Trend Graph



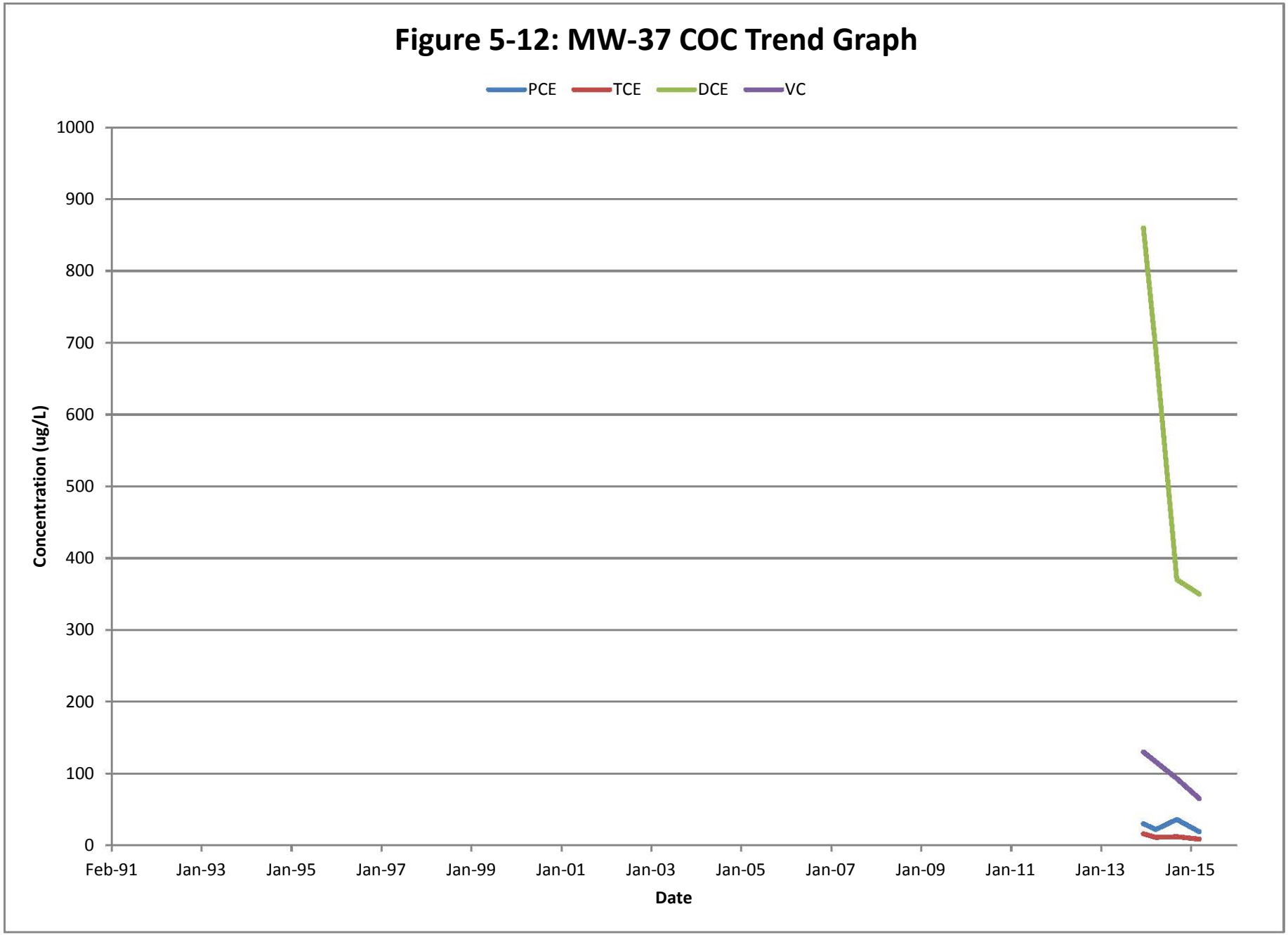
## Figure 5-10: MW-32 COC Trend Graph



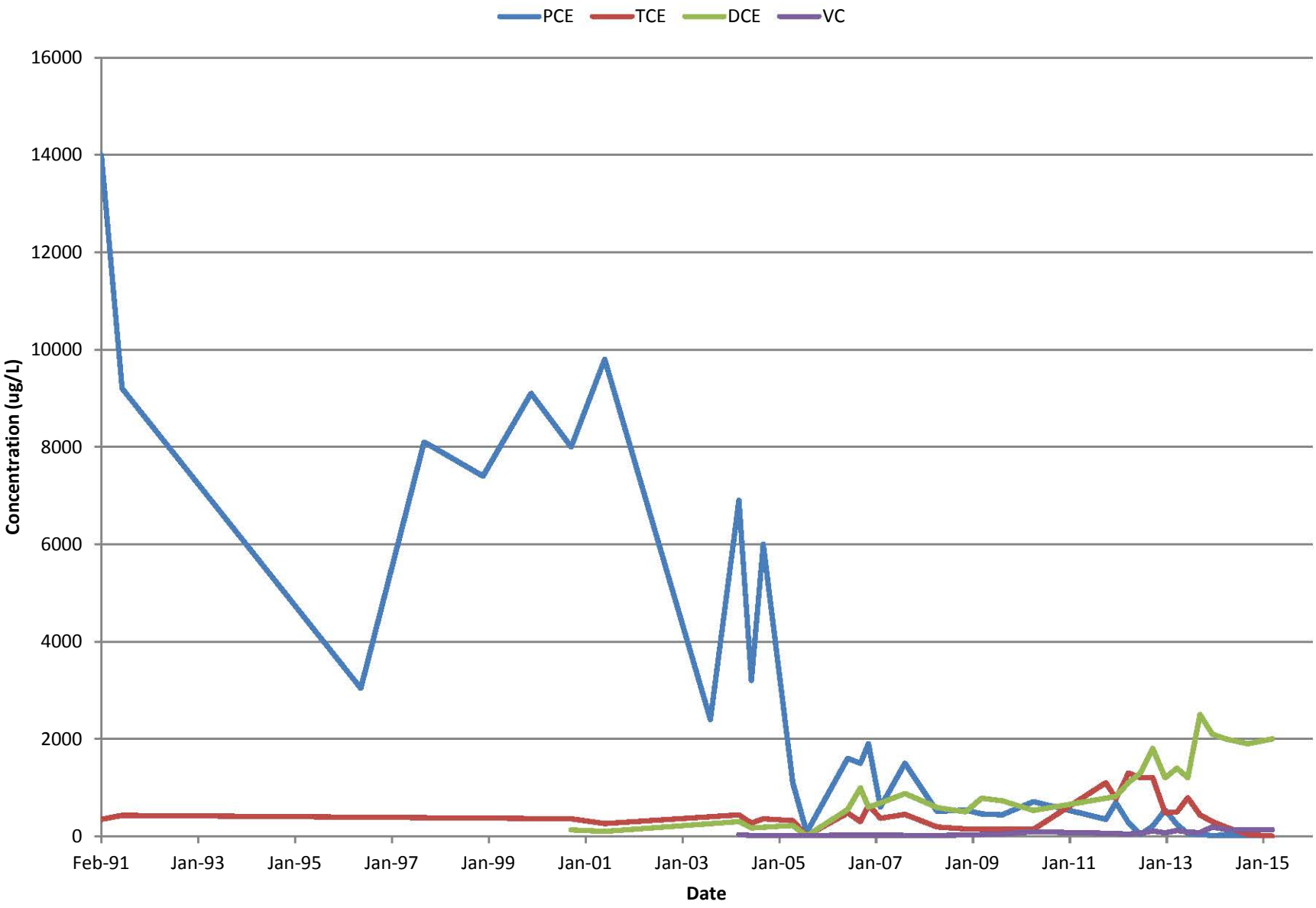
# Figure 5-11: MW-34 COC Trend Graph



# Figure 5-12: MW-37 COC Trend Graph



# Figure 5-13: PAN-MW-9 COC Trend Graph



VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# EIGHTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT A

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: IW-1R

DATE: 4/2/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 70°F Partly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 9.90 FT. to 19.90 FT.

INITIAL WATER LEVEL (BTOC): 3.35 FT. | TIME: 15:01 | BTOC WELL SCREEN INTERVAL: 8.90 FT. to 18.90 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 18.9 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -1 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 171 → 2.5

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:20 | 0 | 26.91 | 4.03 | 131 | 0.493 | 14.5 | 0.70 | NA | |
| 15:25 | 380 | 26.22 | 4.12 | 113 | 0.504 | 11.4 | 0.49 | NA | |
| 15:30 | 720 | 25.23 | 4.14 | 107 | 0.515 | 10.8 | 0.42 | NA | |
| 15:35 | 1120 | 25.20 | 4.14 | 102 | 0.520 | 7.6 | 0.36 | NA | |
| 15:39 | | | | | | | | 4.70 | |

COMMENTS: | SAMPLE COLLECTION TIME: 15:37

PREPARED BY: [signature]

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 14 |
| Final tubing depth (ft.) BTOC | 14 |
| Initial pump speed | 3.18 |
| Time pump speed was initialized | 15:13 |
| Pump speed at flow into cylinder | 3.18 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Contact w/ Oil Product w/ gauging. Used mini bailer 3X

Approximate Initial water level recalculated after 3 at 18:37 at 3.40 ft

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: IW-18

DATE: 4/21/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 65°F Partly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 3.18 FT. | TIME: 1202 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 19.3 FT. | MEASURED TOTAL WELL DEPTH (BTOC 19.28 FT. | HEIGHT OF STICK-UP: 0.33 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0-0 BENEATH INNER CAP: 7-0 dropped to 1.8

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 12:11 | 0 | 24.58 | 5.19 | 48 | 0.677 | 156 | 2.94 | NA | clear on 1st pull |
| 12:17 | 360 | 24.56 | 5.21 | 23 | 0.687 | 140 | 1.63 | NA | |
| 12:22 | 630 | 24.61 | 5.22 | 6 | 0.716 | 148 | 1.02 | NA | |
| 12:27 | 960 | 24.90 | 5.21 | -1 | 0.722 | 146 | 0.70 | NA | yellow/brown coloring in tube |
| 12:32 | 1480 | 25.03 | 5.14 | -3 | 0.736 | 157 | 0.61 | NA | |
| | | | | | | | | 9.31 | |

COMMENTS: | SAMPLE COLLECTION TIME: 12:36

PREPARED BY: Daniel Lovegrove

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 23 |
| Initial tubing depth (ft.) BTOC | 17 |
| Final tubing depth (ft.) BTOC | 15 |
| Initial pump speed | 2.04 |
| Time pump speed was initialized | 12:03 |
| Pump speed at flow into cylinder | 2.04 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: water in vault ~½ in above TOC. Air pressure under cap. VOC meter alarm went off & backed up for ventilation

## ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: LAW-PZ-8R

DATE: 4/2/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 65°F Partly cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 1.80 FT. to 11.80 FT.

INITIAL WATER LEVEL (BTOC): 1.53 FT. | TIME: 16:07 | BTOC WELL SCREEN INTERVAL: 1.32 FT. to 11.32 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 11.1 FT. | MEASURED TOTAL WELL DEPTH (BTO FT. | HEIGHT OF STICK-UP: -0.476 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0 | BENEATH OUTER CAP: 0.7 | BENEATH INNER CAP: ~~7327~~ → 16

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:19 | 0 | 26.42 | 5.34 | 63 | 0.695 | 660 | 0.69 | NA | clear/light brown 1st RU |
| 16:24 | 560 | 24.30 | 5.41 | 29 | 0.736 | 608 | 0.45 | NA | Dark Brown color in |
| 16:29 | 980 | 23.85 | 5.43 | 11 | 0.749 | 516 | 0.38 | NA | cylinder |
| 16:34 | 1400 | 23.61 | 5.46 | -4 | 0.764 | 368 | 0.35 | NA | |
| 16:39 | 1860 | 23.47 | 5.43 | -12 | 0.784 | 231 | 0.33 | NA | |
| 16:44 | 2300 | 23.51 | 5.52 | -24 | 0.801 | 170 | 0.32 | NA | |
| 16:49 | 2720 | 23.48 | 5.53 | -31 | 0.808 | 136 | 0.31 | NA | |
| 16:54 | 3140 | 23.36 | 5.53 | -36 | 0.813 | 116 | 0.31 | NA | |
| 16:55 | | | | | | | | 2.20 | |

COMMENTS:

SAMPLE COLLECTION TIME: 16:57

PREPARED BY: Dave Vargo

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 30 |
| Initial tubing depth (ft.) BTOC | 6.0 |
| Final tubing depth (ft.) BTOC | 6.0 |
| Initial pump speed | 2.50 |
| Time pump speed was initialized | 16:12 |
| Pump speed at flow into cylinder | 2.41 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 1640 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-14

DATE: 4/11/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 58° F Light wind Partly cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

INITIAL WATER LEVEL (BTOC): 6.48 FT. | TIME: 1614 | BTOC WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): FT. | MEASURED TOTAL WELL DEPTH (BTOC 49.57 FT. | HEIGHT OF STICK-UP: 0 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM BENEATH OUTER CAP: NM BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 18:00 | 0 | 20.01 | 5.94 | 0 | 0.355 | 0.0 | 4.33 | 6.73 | Clear |
| 18:05 | 340 | 19.93 | 6.75 | -66 | 0.383 | 0.0 | 3.51 | 6.81 | |
| 18:10 | 640 | 19.79 | 6.41 | -69 | 0.421 | 0.0 | 3.02 | 6.84 | |
| 18:15 | 980 | 19.60 | 6.98 | -74 | 0.460 | 0.0 | 2.66 | 6.86 | |
| 18:20 | 1280 | 19.43 | 7.01 | -76 | 0.477 | 0.0 | 1.62 | 6.89 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 18:23

PREPARED BY: S Helwig

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 47 |
| Initial tubing depth (ft.) BTOC | 45 |
| Final tubing depth (ft.) BTOC | 45 |
| Initial pump speed | 2.17 |
| Time pump speed was initialized | 17:52 |
| Pump speed at flow into cylinder | 2.18 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: _____

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-16

DATE: 7/2/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 65°F Partly cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 12.03 FT. | TIME: 10:38 | BTOC WELL SCREEN INTERVAL: 8.13 FT. to 18.13 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 13.98 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.02 FT. | HEIGHT OF STICK-UP: 3.18 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.2 BENEATH OUTER CAP: 0.3 BENEATH INNER CAP: 0.8

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:59 ~~10:49~~ | 0 | 23.47 | 5.55 | 55 | 0.454 | 0.0 | 1.59 | NA | 1st pull is clear |
| 11:04 | 200 | 22.91 | 5.60 | 34 | 0.463 | 0.0 | 0.79 | NA | |
| 11:09 | 420 | 22.14 | 5.56 | 21 | 0.479 | 0.0 | 0.71 | NA | |
| 11:14 | 630 | 21.67 | 5.55 | 11 | 0.487 | 0.0 | 0.65 | NA | |
| 11:19 | 840 | 21.50 | 5.55 | 5 | 0.489 | 0.0 | 0.64 | NA | |
| | | | | | | | | 12.5 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 11:21

PREPARED BY: Dawn Virgil

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 13 |
| Final tubing depth (ft.) BTOC | 13 |
| Initial pump speed | ~~100~~ 1.68 |
| Time pump speed was initialized | 10:47 |
| Pump speed at flow into cylinder | 1.68 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Tubing hit refusal multiple times when inserted into well/ small Bubbles in tubing

# ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-17 R

DATE: 3-31-15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Windy Partly Cloudy 77°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.60 FT. to 20.60 FT.

INITIAL WATER LEVEL (BTOC): 10.93 FT. | TIME: 16:17 | BTOC WELL SCREEN INTERVAL: 9.12 FT. to 24.12 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.99 FT. | MEASURED TOTAL WELL DEPTH (BTOC 23.96 FT. | HEIGHT OF STICK-UP: 3.52 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM | BENEATH OUTER CAP: NM | BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:39 | 0 | 28.78 | 6.06 | -27 | 0.402 | 0.0 | 2.87 | N/A | |
| 16:44 | 360 | 28.97 | 5.93 | -44 | 0.400 | 0.0 | 0.95 | N/A | |
| 16:49 | 540 | 29.06 | 5.93 | -52 | 0.404 | 0.0 | 0.76 | N/A | |
| 16:54 | 890 | 28.94 | 5.93 | -56 | 0.405 | 7.3 | 0.76 | N/A | |
| | | | | | | | | 10.02 | |

COMMENTS:

SAMPLE COLLECTION TIME: 16:59

PREPARED BY: S Hellwig

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 25 |
| Initial tubing depth (ft.) BTOC | 17.5 |
| Final tubing depth (ft.) BTOC | 17.5 |
| Initial pump speed | 1.87 |
| Time pump speed was initialized | 15:29 |
| Pump speed at flow into cylinder | 1.98 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Note: Water in Tidal flat channel up to top of slurry gate

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-18R

DATE: 3/30/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 50's Wind Overcast

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.18 FT. | TIME: 8:52 | BTOC WELL SCREEN INTERVAL: 6.66 FT. to 16.66 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.61 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.55 FT. | HEIGHT OF STICK-UP: 3.66 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM | BENEATH OUTER CAP: NM | BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, ~~9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX~~

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:15 | 0 | 15.34 | 4.81 | 187 | 0.319 | 46.1 | 4.33 | NA | |
| 9:20 | 900 | 16.22 | 3.86 | 261 | 0.309 | 47.1 | 2.48 | NA | |
| 9:25 | 1540 | 16.47 | 3.97 | 262 | 0.305 | 33.0 | 1.81 | NA | |
| 9:30 | 2100 | 16.57 | 4.12 | 259 | 0.305 | 23.2 | 1.49 | NA | |
| 9:35 | 2700 | 16.82 | 3.94 | 274 | 0.304 | 22.3 | 2.20 | NA | |
| 9:40 | 3280 | 16.27 | 3.88 | 280 | 0.301 | 67.1 | 2.04 | NA | |
| 9:45 | 4260 | 16.71 | 3.91 | 291 | 0.300 | 24.8 | 1.98 | NA | |
| | | | | | | | | 6.45 | |

COMMENTS:

SAMPLE COLLECTION TIME: 9:49

PREPARED BY: SHP/mlj

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12 |
| Final tubing depth (ft.) BTOC | 12 |
| Initial pump speed | 3.70 |
| Time pump speed was initialized | 9:11 |
| Pump speed at flow into cylinder | 3.71 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 9:29 | | | | | | | |
| Cummulative Volume (mL) | 2007 | | | | | | | |

Additional remarks: PID/MAL Function led to non measurable. Turbidity could not be lowered below 10 NTU

1 sample bottle broke

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

PAGE 1 OF

WELL/SAMPLE NO: MW-19

DATE: 3/30/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 50°F Cloudy Light rain (Scattered)

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.38 FT. to 13.38 FT.

INITIAL WATER LEVEL (BTOC): 6.69 FT. | TIME: 11:50 | BTOC WELL SCREEN INTERVAL: 7.58 FT. to 17.58 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 17.97 FT. | MEASURED TOTAL WELL DEPTH (BTOC 17.96 FT. | HEIGHT OF STICK-UP: 4.2 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ~ BENEATH OUTER CAP: ~ BENEATH INNER CAP: ~

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 12:01 | 0 | 17.34 | 6.46 | -18 | 1.11 | 230 | 3.58 | | Orange/Brown water pumped Rinse |
| 12:06 | ~~460~~ 820 | 17.42 | 6.47 | -34 | 1.12 | 25 | 1.89 | NA | well; Volume 820 |
| 12:11 | 1500 | 17.39 | 6.40 | -34 | 1.10 | 11.5 | 1.30 | NA | |
| 12:16 | 2260 | 17.35 | 6.35 | -31 | 1.06 | 0.0 | 1.05 | NA | |
| 12:21 | 2980 | 17.38 | 6.33 | -28 | 1.06 | 0.0 | 0.90 | NA | |
| | | | | | | | | 7.05 | |

COMMENTS:

SAMPLE COLLECTION TIME: 12:23

PREPARED BY: David Vargo

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 13 |
| Final tubing depth (ft.) BTOC | 13 |
| Initial pump speed | 3.75 |
| Time pump speed was initialized | 11:56 |
| Pump speed at flow into cylinder | 3.75 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 12:14 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: PID was malfunctioning

# ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-23

DATE: 3/30/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 50°F Cloud little no rain

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.15 FT. to 11.15 FT.

INITIAL WATER LEVEL (BTOC): 3.42 FT. | TIME: 13:45 | BTOC WELL SCREEN INTERVAL: 5.90 FT. to 10.90 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 11.72 FT. | MEASURED TOTAL WELL DEPTH (BTOC 11.68 FT. | HEIGHT OF STICK-UP: 0.25 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:57 | 0 | 17.72 | 6.48 | 40 | 0.993 | 0.0 | 2.26 | NA | Dark gray water |
| 14:02 | 520 | 17.65 | 6.36 | 33 | 1.03 | 14.4 | 1.56 | | |
| 14:07 | 1000 | 17.64 | 6.30 | 37 | 1.06 | 32.5 | 1.22 | NA | |
| 14:12 | 1520 | 17.80 | 6.32 | 34 | 1.07 | 74.2 | 1.05 | NA | |
| 14:17 | ~~2000~~ 2000 DV | 17.98 | 6.38 | 32 | 1.07 | 35.9 | 0.41 | NA | volume 2000 |
| 14:22 | 2540 | 18.31 | 6.38 | 30 | 1.07 | 40.7 | 0.81 | NA | |
| 14:27 | 3020 | 18.61 | 6.33 | 35 | 1.04 | 41.9 | 0.75 | NA | |
| | | | | | | | | 4.66 | |

COMMENTS:

SAMPLE COLLECTION TIME: 14:29

PREPARED BY: David Vargas

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 8.5 |
| Final tubing depth (ft.) BTOC | 8.5 |
| Initial pump speed | 3.06 |
| Time pump speed was initialized | 13:51 |
| Pump speed at flow into cylinder | 3.06 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 14:17 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Well missing 2 bolts off well vault. Added 1 DV PID malfunct. ~~Added 1 bolt but other hole is obstructed~~ DV

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-24 R

DATE: 4/1/15 | PROJECT NAME: VORAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 60 55°F Rainy/Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 5.45 FT. | TIME: 9:43 | BTOC WELL SCREEN INTERVAL: 8.68 FT. to 18.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 18.15 FT. | MEASURED TOTAL WELL DEPTH (BTOC 18.4 FT. | HEIGHT OF STICK-UP: 3.73 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:55 | 0 | 17.65 | 4.51 | 60 | 0.530 | 0.9 | 3.66 | NA | Strong Tan Particulate in 1st Purge |
| 10:00 | 400 | 16.64 | 4.42 | 57 | 0.546 | 6.4 | 2.48 | NA | |
| 10:05 | 800 | 16.45 | 4.53 | 44 | 0.539 | 9.7 | 1.68 | NA | |
| 10:10 | 1220 | 16.41 | 4.48 | 53 | 0.539 | 15.2 | 1.24 | NA | |
| 10:15 | 1620 | 16.42 | 4.52 | 54 | 0.517 | 12.0 | 1.02 | NA | |
| 10:20 | 2000 | 16.35 | 4.62 | 50 | 0.497 | 0.0 | 0.92 | NA | |
| 10:25 | 2420 | 16.35 | 4.58 | 56 | 0.479 | 0.0 | 0.88 | NA | |
| 10:30 | 2830 | 16.43 | 4.60 | 56 | 0.464 | 0.0 | 0.90 | 6.50 | |

COMMENTS:

SAMPLE COLLECTION TIME: 10:33

PREPARED BY: David Vargas

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 14 |
| Final tubing depth (ft.) BTOC | 14 |
| Initial pump speed | 2.5 |
| Time pump speed was initialized | 9:48 |
| Pump speed at flow into cylinder | 2.54 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 10:30 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Measure Stick up TOC - ICOC = 42 7/8"

ICOC - GLS = 2.25 inches

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-25

| | | |
|---|---|---|
| DATE: 3/30/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020 |
| WEATHER CONDITIONS: Overcast 55°F light wind | | |
| SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER | | |
| WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.40 FT. to 16.40 FT. | |
| INITIAL WATER LEVEL (BTOC): 6.51 FT. TIME: 10:33 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT. | |
| HISTORICAL TOTAL WELL DEPTH (BTOC): 17.93 FT. | MEASURED TOTAL WELL DEPTH (BTOC 17.91 FT. | HEIGHT OF STICK-UP: 3.27 FT. |
| PURGING DEVICE: Pegasus Alexis Peristaltic Pump | [ ] DEDICATED | [ ] DISPOSABLE [ ] DECONTAMINATED |
| SAMPLING DEVICE: 1/4" Teflon lined tubing | [ ] DEDICATED | [X] DISPOSABLE [ ] DECONTAMINATED |
| EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY | | |
| [ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE | | |
| PID/FID READINGS (ppm): BACKGROUND: NM | BENEATH OUTER CAP: NM | BENEATH INNER CAP: NM |
| CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED | | |
| ANALYTICAL PARAMETERS: 8260 B | | |
| LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9 |

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:44 | 0 | 17.79 | 5.45 | 66 | 0.635 | 50.3 | 2.76 | NA | Tan color in water |
| 10:49 | 780 | 18.95 | 5.84 | -27 | 0.677 | 90.4 | 1.24 | NA | |
| 10:54 | 1430 | 19.15 | 5.88 | -51 | 0.686 | 155 | 0.89 | NA | |
| 10:59 | 2100 | 19.17 | 5.97 | -68 | 0.695 | 56.6 | 0.76 | NA | |
| 11:04 | 2810 | 19.32 | 5.95 | -74 | 0.693 | 23.8 | 0.68 | NA | |
| 11:09 | 3480 | 19.40 | 5.96 | -78 | 0.694 | 17.8 | 0.64 | NA | Pump reversed flow direction |
| ~~11:14~~ | | | | | | | | | |
| 11:16 | 4100 | 19.24 | 6.00 | -79 | 0.693 | 10.1 | 0.70 | 6.98 | |
| | | | | | | | | | |
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| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 11:23

PREPARED BY: Dave Vasquez

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 14 |
| Final tubing depth (ft.) BTOC | 14 |
| Initial pump speed | 3.70 |
| Time pump speed was initialized | 10:40 |
| Pump speed at flow into cylinder | 3.70 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 10:58 | 11:13 | | | | | | |
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks: At 11:14 Pump flow was reversed & corrected immediately waited for parameters to restabalize before reading

## ENVIRONMENTAL INTERNATIONAL CORPORATION

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## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-26R

DATE: 4/2/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 60°F Light Breezy Sunny w/ few clouds

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.10 FT. to 15.10 FT.

INITIAL WATER LEVEL (BTOC): 3.12 FT. | TIME: 9:36 | BTOC WELL SCREEN INTERVAL: 4.80 FT. to 14.80 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.51 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.51 FT. | HEIGHT OF STICK-UP: 0.3 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.1 | BENEATH OUTER CAP: 0.1 | BENEATH INNER CAP: ~~0.7~~ 0.7

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:49 | 0 | 20.44 | 5.67 | 51 | 0.610 | 26.0 | 1.55 | NA | 1st Pull w/ Brown Particles |
| 9:53 | 320 | 21.48 | 5.61 | 36 | 0.600 | 25.1 | 1.23 | NA | but clear |
| 9:58 | 600 | 21.75 | 5.61 | 15 | 0.611 | 19.5 | 0.95 | NA | |
| 10:03 | 1180 | 21.84 | 5.57 | 7 | 0.601 | 15.7 | 0.83 | NA | |
| | | | | | | | | 3.15 | |

COMMENTS:

SAMPLE COLLECTION TIME: 10:05

PREPARED BY: David Vargas

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 9.5 |
| Final tubing depth (ft.) BTOC | 9.5 |
| Initial pump speed | 2.54 |
| Time pump speed was initialized | 9:47 |
| Pump speed at flow into cylinder | 2.54 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

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## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-27

DATE: 3/30/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 60°F Partly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 7.79 FT. to 17.79 FT.

INITIAL WATER LEVEL (BTOC): 4.08 FT. | TIME: 15:47 | BTOC WELL SCREEN INTERVAL: 7.52 FT. to 17.52 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 13.85 FT. | MEASURED TOTAL WELL DEPTH (BTOC 13.84 FT. | HEIGHT OF STICK-UP: -0.27 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 1601 | 0 | 23.28 | 6.20 | 57 | 0.341 | 0.0 | 1.28 | NA | Orange/Brown color |
| 1606 | 3.20 | 23.19 | 6.20 | 50 | 0.354 | 0.0 | 1.08 | NA | |
| 1611 | 600 | 23.05 | 6.19 | 49 | 0.377 | 0.0 | 1.09 | NA | |
| 1616 | 880 | 21.93 | 6.15 | 51 | 0.391 | 0.0 | 1.00 | 6.50 | |
| | | | | | | | | | |
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COMMENTS:

SAMPLE COLLECTION TIME: 16:18

PREPARED BY: David Vaughn

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10.5 |
| Final tubing depth (ft.) BTOC | 10.5 |
| Initial pump speed | 1.9 |
| Time pump speed was initialized | 15:51 |
| Pump speed at flow into cylinder | 1.9 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: PID Malfunct.

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-28

DATE: 3/31/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 60° F Clear & Dry

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.71 FT. to 13.71 FT.

INITIAL WATER LEVEL (BTOC): 4.12 FT. | TIME: 9:32 | BTOC WELL SCREEN INTERVAL: FT. to FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.0 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.05 FT. | HEIGHT OF STICK-UP: -0.125 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:03 | 0 | 19.43 | 6.70 | 194 | 0.431 | 0.0 | 2.59 | N/A | Tan Color |
| 10:08 | 280 | 18.94 | 6.90 | 201 | 0.415 | 0.0 | 2.10 | N/A | |
| 10:13 | 520 | 18.51 | 6.91 | 203 | 0.402 | 0.0 | 1.95 | N/A | |
| 10:18 | 780 | 18.22 | 6.90 | 203 | 0.399 | 0.0 | 1.83 | N/A | |
| | | | | | | | | 5.08 | |

COMMENTS:

SAMPLE COLLECTION TIME: 10:20

PREPARED BY: SHelwig

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 2.0 |
| Initial tubing depth (ft.) BTOC | 9 |
| Final tubing depth (ft.) BTOC | 9 |
| Initial pump speed | 1.95 |
| Time pump speed was initialized | 9:51 |
| Pump speed at flow into cylinder | 1.97 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks:

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-29

DATE: 4/1/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 69°F Windy Partly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [ ] 2 [ ] 4 [ ] 6 [X] OTHER (3/4") | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 6.04 FT. | TIME: 16:42 | BTOC WELL SCREEN INTERVAL: 13.55 FT. to 23.55 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.26 FT. | MEASURED TOTAL WELL DEPTH (BTOC 23.15 FT. | HEIGHT OF STICK-UP: 3.55 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NA BENEATH OUTER CAP: NA BENEATH INNER CAP: NA

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:57 | 0 | 25.66 | 4.53 | 57 | 0.924 | 0.0 | 1.83 | NA | Clear |
| 17:04 | 250 | 24.33 | 4.44 | 48 | 0.774 | 29.9 | 0.96 | NA | |
| 17:09 | 500 | 23.85 | 4.46 | 45 | 1.01 | 32.1 | 0.32 | NA | |
| 17:14 | 800 | 23.34 | 4.52 | 43 | 1.05 | 36.5 | 0.77 | NA | |
| 17:19 | 1080 | 22.91 | 4.53 | 42 | 1.10 | 25.1 | 0.76 | NA | |
| 17:24 | 1260 | 22.32 | 4.54 | 41 | 1.15 | 44.4 | 0.69 | NA | |
| 17:30 | 1510 | 21.80 | 4.54 | 41 | 1.20 | 87.8 | 0.66 | NA | |
| 17:35 | 1790 | 21.57 | 4.50 | 43 | 1.23 | 69.8 | 0.65 | NA | |
| 17:40 | 2040 | 21.22 | 4.49 | 43 | 1.24 | 78.0 | 0.62 | NA | |
| | | | | | | | | 10.5 | |
| | | | | | | | | | |
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3980

COMMENTS:

SAMPLE COLLECTION TIME: 17:43

PREPARED BY: Will Sr JHenn

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 24 |
| Initial tubing depth (ft.) BTOC | 18 |
| Final tubing depth (ft.) BTOC | 18 |
| Initial pump speed | 1.78 |
| Time pump speed was initialized | 16:46 |
| Pump speed at flow into cylinder | 1.79 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Measure stick up, TOC - CCpm = 42 15/16"
CCpm - SS = 3.25"

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-30

DATE: 4/3/13 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 65°F Partly cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.25 FT. to 15.25 FT.

INITIAL WATER LEVEL (BTOC): 5.05 FT. | TIME: 17:24 | BTOC WELL SCREEN INTERVAL: 4.97 FT. to 14.97 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.07 FT. | MEASURED TOTAL WELL DEPTH (BTOC 15.05 FT. | HEIGHT OF STICK-UP: 0.28 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0 | BENEATH OUTER CAP: 0 | BENEATH INNER CAP: 0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:41 | 0 | 24.40 | 4.95 | 98 | 0.280 | 0.0 | 1.33 | 5.11 | |
| 17:46 | 600 | 24.25 | 4.13 | 117 | 0.281 | 0.0 | 0.79 | 5.15 | |
| 17:51 | 1280 | 23.80 | 4.12 | 115 | 0.284 | 0.0 | 0.64 | 5.15 | |
| 17:56 | 1900 | 23.49 | 4.02 | 120 | 0.287 | 0.0 | 0.55 | 5.15 | |
| 18:01 | 2480 | 23.26 | 4.01 | 108 | 0.286 | 0.0 | 0.49 | 5.15 | |
| 18:06 | 3090 | 23.03 | 4.24 | 106 | 0.284 | 0.0 | 0.46 | 5.15 | |
| 18:11 | 3500 | 22.87 | 4.14 | 111 | 0.286 | 0.0 | 0.43 | 5.15 | |

COMMENTS:

SAMPLE COLLECTION TIME: 18:13

PREPARED BY: [signature]

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 3.50 |
| Time pump speed was initialized | 17:37 |
| Pump speed at flow into cylinder | 3.50 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 17:57 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG



| | | |
|---|---|---|
| DATE: 3/30/15 | PROJECT NAME: VOPAK Savannah | WELL/SAMPLE NO: MW-31 |
| WEATHER CONDITIONS: 65°F clear by (Partly) 70 mostly | | PROJECT NO: 390020 |

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER

BGS WELL SCREEN INTERVAL: 10.50 FT. to 20.50 FT.

INITIAL WATER LEVEL (BTOC): 4.48 FT. TIME: 15:09

BTOC WELL SCREEN INTERVAL: 10.08 FT. to 20.08 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 20.48 FT. MEASURED TOTAL WELL DEPTH (BTOC FT. HEIGHT OF STICK-UP: 0.42 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America WATER ANALYZER MODEL: Horiba U-52 SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:19 | 0 | 22.22 | 6.57 | 48 | 0.844 | 59.2 | 1.71 | - | Grey color |
| 15:24 | 720 | 21.96 | 6.48 | 41 | 0.854 | 0.0 | 0.92 | | |
| 15:29 | 1500 | 21.60 | 6.45 | 38 | 0.867 | 0.0 | 0.72 | 4.96 | |
| 15:34 | 2000 | 21.51 | 6.52 | 33 | 0.864 | 0.0 | 0.63 | 4.96 | |

COMMENTS:

SAMPLE COLLECTION TIME: 15:35

PREPARED BY: Daniel Vaughn

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 15 |
| Final tubing depth (ft.) BTOC | 15 |
| Initial pump speed | 3.79 |
| Time pump speed was initialized | 15:15 |
| Pump speed at flow into cylinder | |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 15:33 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: PID Malfunct

## ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-32

DATE: 3-31-15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Windy Partly Cloudy 70° F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT.

INITIAL WATER LEVEL (BTOC): 5.49 FT. | TIME: 1715 | BTOC WELL SCREEN INTERVAL: 6.08 FT. to 16.08 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.43 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.41 FT. | HEIGHT OF STICK-UP: 0.42 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:30 | 0 | 29.78 | 6.86 | -36 | 0.736 | 0.0 | 2.70 | 5.75 | |
| 17:35 | 900 | 29.35 | 7.00 | -43 | 0.742 | 0.0 | 1.99 | 5.88 | |
| 17:40 | 1390 | 28.94 | 6.97 | -40 | 0.740 | 19.3 | 1.99 | 5.96 | |
| 17:46 | 2000 | 28.49 | 6.97 | -38 | 0.719 | 22.5 | 1.97 | 6.04 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 17:50

PREPARED BY: SHelms

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 3.01 |
| Time pump speed was initialized | 17:22 |
| Pump speed at flow into cylinder | 3.01 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 17:46 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-33

DATE: 4/2/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 70°F Partly cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

INITIAL WATER LEVEL (BTOC): 3.38 FT. | TIME: 12:50 | BTOC WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.42 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.35 FT. | HEIGHT OF STICK-UP: 0 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 4.7 → 0.3

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, ~~8060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX~~

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:09 | 0 | 26.01 | 5.18 | 48 | 0.374 | 0.0 | 1.62 | 2.77 | Yellow color in cylinder |
| 13:14 | 686 | 25.44 | 5.05 | 49 | 0.389 | 0.0 | 0.73 | 2.81 | |
| 13:19 | 1320 | 24.09 | 5.05 | 44 | 0.397 | 6.2 | 0.56 | 2.84 | |
| 13:24 | 1980 | 23.61 | 4.97 | 45 | 0.399 | 41.1 | 0.48 | 2.81 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 13:27

PREPARED BY:

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10.5 |
| Final tubing depth (ft.) BTOC | 10.5 |
| Initial pump speed | 3.55 |
| Time pump speed was initialized | 13:03 |
| Pump speed at flow into cylinder | 3.55 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 13:24 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Yellow color in test tube box

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-34

DATE: 3-31-15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear / Rain with 70°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT.

INITIAL WATER LEVEL (BTOC): 3.28 FT. | TIME: 10:40 | BTOC WELL SCREEN INTERVAL: 6.02 FT. to 16.02 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.34 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.34 FT. | HEIGHT OF STICK-UP: 0.48 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: ~~0.0~~ 0.4

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 0 | 18.93 | 4.96 | 172 | 0.174 | 2.6 | 2.50 | 3.34 | Clear, Brown to Amber |
| 11:05 | 780 | 19.74 | 4.31 | 186 | 0.177 | 0.0 | 1.40 | 3.40 | |
| 11:10 | 1400 | 19.92 | 4.30 | 198 | 0.176 | 0.0 | 1.16 | 3.40 | |
| 11:15 | 2100 | 20.11 | 4.33 | 201 | 0.178 | 0.0 | 1.03 | 3.40 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 11:17

PREPARED BY: S Hollady

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 3.00 |
| Time pump speed was initialized | 10:56 |
| Pump speed at flow into cylinder | 3.81 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 11:14 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: water in vault to 1.5 inches above TOC. Bailed dry for sampling well

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-35

DATE: 3-31-15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Windy Clear 75°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.63 FT. to 15.63 FT.

INITIAL WATER LEVEL (BTOC): 5.47 FT. | TIME: | BTOC WELL SCREEN INTERVAL: 5.32 FT. to 15.32 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.32 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -0.31 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM | BENEATH OUTER CAP: NM | BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 14:53 | 0 | 24.65 | 6.26 | -1 | 0.605 | 40.6 | 1.07 | 5.54 | |
| 14:59 | 600 | 23.63 | 6.58 | -107 | 0.612 | 0.0 | 1.09 | 5.54 | |
| 15:04 | 1160 | 23.10 | 6.56 | -123 | 0.617 | 0.0 | 0.84 | 5.54 | |
| 15:09 | 1740 | 23.39 | 6.58 | -132 | 0.616 | 0.0 | 0.73 | 5.54 | |
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COMMENTS: | SAMPLE COLLECTION TIME: 15:12 | PREPARED BY: SHenry

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 3.12 |
| Time pump speed was initialized | 14:45 |
| Pump speed at flow into cylinder | 3.12 |
| Started new roll of tubing at | yes |
| Three well volume (mL) | |

Diverter Swan plug on drain bottom, recovered at 14:48

- 011 450 comes roll

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Retrieve Bolt From Well - unable to retrieve.

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-36

DATE: 3-31-15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: W Mostly 76°F Partly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.55 FT. to 15.55 FT.

INITIAL WATER LEVEL (BTOC): 6.48 FT. | TIME: 15:35 | BTOC WELL SCREEN INTERVAL: 5.43 FT. to 15.43 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.425 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -0.125 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:47 | 0 | 26.30 | 6.34 | -94 | 1.34 | 0.0 | 1.78 | 6.69 | 1st Pull is clear in tubing |
| 15:52 | 600 | 25.10 | 6.38 | -117 | 1.37 | 0.0 | 1.23 | 6.74 | |
| 15:57 | 1010 | 24.91 | 6.38 | -124 | 1.37 | 0.0 | 0.98 | 6.78 | |
| 16:02 | 1540 | 24.91 | 6.38 | -128 | 1.37 | 0.0 | 0.79 | 6.80 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 1605

PREPARED BY: SHB/mm

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 3.01 |
| Time pump speed was initialized | 15:41 |
| Pump speed at flow into cylinder | 3.01 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-37

DATE: 3-31-15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 65°F clear skies

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.15 FT. to 15.15 FT.

INITIAL WATER LEVEL (BTOC): 11.42 FT. TIME: 3:07 | BTOC WELL SCREEN INTERVAL: 5.15 FT. to 15.15 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.15 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: 0 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 2.0 BENEATH INNER CAP: 1.2

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 11:48 | 0 | 18.73 | 5.39 | 85 | 0.314 | 0.0 | 1.95 | 4.08 | |
| 11:53 | 700 | 17.93 | 5.28 | 53 | 0.324 | 0.0 | 1.19 | 4.08 | |
| 11:58 | 1400 | 17.84 | 5.24 | 47 | 0.324 | 0.0 | 0.84 | 4.08 | |
| 12:03 | 2150 | 17.92 | 5.31 | 40 | 0.324 | 0.0 | 0.71 | 4.08 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 12:05

PREPARED BY: STAFF

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 28 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 4.10 |
| Time pump speed was initialized | 11:44 |
| Pump speed at flow into cylinder | 4.10 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

End of 184ft roll of tubing

2,000 mL volume poured into bucket:

| Time | 12:02 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks:

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: PAN-MW-9

DATE: 4/1/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 65°F Windy Partly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.48 FT. | TIME: 1616 | BTOC WELL SCREEN INTERVAL: 6.25 FT. to 16.25 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.78 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.77 FT. | HEIGHT OF STICK-UP: 3.25 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM BENEATH OUTER CAP: NM BENEATH INNER CAP: NA

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, ~~9060A, 310.1, 9056A, SM 9500 FE D, 6010C, 9034, AM20GAX~~

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:40 | 0 | 18.19 | 5.00 | 32 | 0.615 | 7.6 | 1.23 | 6.45 | |
| 13:45 | 300 | 17.67 | 4.76 | 35 | 0.624 | 0.7 | 0.90 | 7.04 | |
| 13:50 | 600 | 17.61 | 4.72 | 32 | 0.613 | 1.3 | 0.80 | 7.15 | |
| 13:55 | 900 | 17.52 | 4.75 | 29 | 0.602 | 5.4 | 0.75 | 7.23 | |

COMMENTS:

SAMPLE COLLECTION TIME: 13:58

PREPARED BY: S Helms

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 2.00 |
| Time pump speed was initialized | 13:21 |
| Pump speed at flow into cylinder | 2.01 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: Measure Stick Up. TOC - Cap 36 7/8"
TOC - 6.5 39.5"

# ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: PAN-MW-10

DATE: 4/1/13 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 60°F Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 8.24 FT. | TIME: 8:47 | BTOC WELL SCREEN INTERVAL: 6.68 FT. to 16.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.93 FT. | MEASURED TOTAL WELL DEPTH (BTOC 15.9 FT. | HEIGHT OF STICK-UP: 3.68 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:01 | 0 | 19.06 | 6.13 | 140 | 0.531 | 0.0 | 5.70 | 8.33 | 1st purge clear water |
| 9:07 | 420 | 18.66 | 5.68 | 144 | 0.540 | 0.0 | 3.30 | 8.35 | |
| 9:12 | 1480 | 18.50 | 5.65 | 145 | 0.543 | 0.0 | 2.73 | 8.36 | |
| 9:17 | 2200 | 18.42 | 5.68 | 143 | 0.541 | 0.0 | 2.33 | 8.36 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 9:20

PREPARED BY: David Vargas

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12.5 |
| Final tubing depth (ft.) BTOC | 12.5 |
| Initial pump speed | 3.85 |
| Time pump speed was initialized | 8:58 |
| Pump speed at flow into cylinder | 3.85 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 9:15 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# EIGHTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT B

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-111248-1
Client Project/Site: VoPak, Savannah/390020

For:
Environmental International Corporation
161 Kimball Bridge Road
Suite 100
Alpharetta, Georgia 30009

Attn: Stephen Helmly

*Authorized for release by:*
*4/10/2015 5:45:05 PM*

Sheila Hoffman, Project Manager II
(912)354-7858 e.3004
sheila.hoffman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

# Sample Summary

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 680-111248-1 | IW-1R | Water | 04/02/15 15:37 | 04/03/15 08:30 |
| 680-111248-2 | IW-18 | Water | 04/02/15 12:36 | 04/03/15 08:30 |
| 680-111248-3 | LAW-PZ-8R | Water | 04/02/15 16:57 | 04/03/15 08:30 |
| 680-111248-4 | MW-14 | Water | 04/01/15 18:23 | 04/03/15 08:30 |
| 680-111248-5 | MW-16 | Water | 04/02/15 11:21 | 04/03/15 08:30 |
| 680-111248-6 | MW-17R | Water | 03/31/15 16:58 | 04/03/15 08:30 |
| 680-111248-7 | MW-18R | Water | 03/30/15 09:49 | 04/03/15 08:30 |
| 680-111248-8 | MW-19 | Water | 03/30/15 12:23 | 04/03/15 08:30 |
| 680-111248-9 | MW-23 | Water | 03/30/15 14:29 | 04/03/15 08:30 |
| 680-111248-10 | MW-24R | Water | 04/01/15 10:33 | 04/03/15 08:30 |
| 680-111248-11 | MW-25 | Water | 03/30/15 11:23 | 04/03/15 08:30 |
| 680-111248-12 | MW-26R | Water | 04/02/15 10:05 | 04/03/15 08:30 |
| 680-111248-13 | MW-27 | Water | 03/30/15 16:18 | 04/03/15 08:30 |
| 680-111248-14 | MW-28 | Water | 03/31/15 10:20 | 04/03/15 08:30 |
| 680-111248-15 | MW-29 | Water | 04/01/15 17:43 | 04/03/15 08:30 |
| 680-111248-16 | MW-30 | Water | 04/02/15 18:13 | 04/03/15 08:30 |
| 680-111248-17 | MW-31 | Water | 03/30/15 15:35 | 04/03/15 08:30 |
| 680-111248-18 | MW-32 | Water | 03/31/15 17:50 | 04/03/15 08:30 |
| 680-111248-19 | MW-33 | Water | 04/02/15 13:27 | 04/03/15 08:30 |
| 680-111248-20 | MW-34 | Water | 03/31/15 11:17 | 04/03/15 08:30 |
| 680-111248-21 | MW-35 | Water | 03/31/15 15:12 | 04/03/15 08:30 |
| 680-111248-22 | MW-36 | Water | 03/31/15 16:05 | 04/03/15 08:30 |
| 680-111248-23 | MW-37 | Water | 03/31/15 12:05 | 04/03/15 08:30 |
| 680-111248-24 | PAN-MW-9 | Water | 04/01/15 18:58 | 04/03/15 08:30 |
| 680-111248-25 | PAN-MW-10 | Water | 04/01/15 09:20 | 04/03/15 08:30 |
| 680-111248-26 | Trip Blank | Water | 03/30/15 00:00 | 04/03/15 08:30 |

# Method Summary

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL SAV |

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative error ratio |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

## Job ID: 680-111248-1

**Laboratory: TestAmerica Savannah**

**Narrative**

### CASE NARRATIVE

### Client: Environmental International Corporation

### Project: VoPak, Savannah/390020

### Report Number: 680-111248-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

**RECEIPT**

The samples were received on 04/03/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 6.6 C.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples IW-1R (680-111248-1), IW-18 (680-111248-2), LAW-PZ-8R (680-111248-3), MW-14 (680-111248-4), MW-16 (680-111248-5), MW-17R (680-111248-6), MW-18R (680-111248-7), MW-19 (680-111248-8), MW-23 (680-111248-9), MW-24R (680-111248-10), MW-25 (680-111248-11), MW-26R (680-111248-12), MW-27 (680-111248-13), MW-28 (680-111248-14), MW-29 (680-111248-15), MW-30 (680-111248-16), MW-31 (680-111248-17), MW-32 (680-111248-18), MW-33 (680-111248-19), MW-34 (680-111248-20), MW-35 (680-111248-21), MW-36 (680-111248-22), MW-37 (680-111248-23), PAN-MW-9 (680-111248-24), PAN-MW-10 (680-111248-25) and Trip Blank (680-111248-26) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/09/2015 and 04/10/2015.

Samples IW-1R (680-111248-1)[200X], IW-18 (680-111248-2)[10X], LAW-PZ-8R (680-111248-3)[1000X], MW-16 (680-111248-5)[2X], MW-24R (680-111248-10)[5X], MW-26R (680-111248-12)[100X], MW-29 (680-111248-15)[50X], MW-37 (680-111248-23)[2X] and PAN-MW-9 (680-111248-24)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

## Client Sample ID: IW-1R — Lab Sample ID: 680-111248-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 440 | | 200 | 100 | ug/L | 200 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 9900 | | 200 | 82 | ug/L | 200 | | 8260B | Total/NA |
| Benzene | 110 | J | 200 | 86 | ug/L | 200 | | 8260B | Total/NA |
| Trichloroethene | 150 | J | 200 | 96 | ug/L | 200 | | 8260B | Total/NA |
| Toluene | 260 | | 200 | 96 | ug/L | 200 | | 8260B | Total/NA |
| Tetrachloroethene | 310 | | 200 | 150 | ug/L | 200 | | 8260B | Total/NA |
| Chlorobenzene | 920 | | 200 | 52 | ug/L | 200 | | 8260B | Total/NA |
| Ethylbenzene | 2300 | | 200 | 66 | ug/L | 200 | | 8260B | Total/NA |
| Xylenes, Total | 17000 | | 200 | 46 | ug/L | 200 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 110 | J | 200 | 86 | ug/L | 200 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 820 | | 200 | 92 | ug/L | 200 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 200 | | 200 | 74 | ug/L | 200 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 1000 | | 1000 | 500 | ug/L | 200 | | 8260B | Total/NA |

## Client Sample ID: IW-18 — Lab Sample ID: 680-111248-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 830 | | 10 | 5.0 | ug/L | 10 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 4.4 | J | 10 | 3.7 | ug/L | 10 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 920 | | 10 | 4.1 | ug/L | 10 | | 8260B | Total/NA |
| Benzene | 350 | | 10 | 4.3 | ug/L | 10 | | 8260B | Total/NA |
| Trichloroethene | 8.4 | J | 10 | 4.8 | ug/L | 10 | | 8260B | Total/NA |
| Toluene | 14 | | 10 | 4.8 | ug/L | 10 | | 8260B | Total/NA |
| Chlorobenzene | 960 | | 10 | 2.6 | ug/L | 10 | | 8260B | Total/NA |
| Ethylbenzene | 180 | | 10 | 3.3 | ug/L | 10 | | 8260B | Total/NA |
| Xylenes, Total | 1300 | | 10 | 2.3 | ug/L | 10 | | 8260B | Total/NA |
| Isopropylbenzene | 4.5 | J | 10 | 3.5 | ug/L | 10 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 7.4 | J | 10 | 4.3 | ug/L | 10 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 31 | | 10 | 4.6 | ug/L | 10 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 7.0 | J | 10 | 3.7 | ug/L | 10 | | 8260B | Total/NA |

## Client Sample ID: LAW-PZ-8R — Lab Sample ID: 680-111248-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 4100 | | 1000 | 410 | ug/L | 1000 | | 8260B | Total/NA |
| Benzene | 1100 | | 1000 | 430 | ug/L | 1000 | | 8260B | Total/NA |
| Chlorobenzene | 3700 | | 1000 | 260 | ug/L | 1000 | | 8260B | Total/NA |
| Ethylbenzene | 6900 | | 1000 | 330 | ug/L | 1000 | | 8260B | Total/NA |
| Xylenes, Total | 87000 | | 1000 | 230 | ug/L | 1000 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 960 | J | 1000 | 460 | ug/L | 1000 | | 8260B | Total/NA |

## Client Sample ID: MW-14 — Lab Sample ID: 680-111248-4

No Detections.

## Client Sample ID: MW-16 — Lab Sample ID: 680-111248-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 120 | | 2.0 | 1.0 | ug/L | 2 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 0.90 | J | 2.0 | 0.72 | ug/L | 2 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 1.0 | J | 2.0 | 0.74 | ug/L | 2 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

## Client Sample ID: MW-16 (Continued) — Lab Sample ID: 680-111248-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 210 | | 2.0 | 0.82 | ug/L | 2 | | 8260B | Total/NA |
| Benzene | 2.7 | | 2.0 | 0.86 | ug/L | 2 | | 8260B | Total/NA |
| Trichloroethene | 6.0 | | 2.0 | 0.96 | ug/L | 2 | | 8260B | Total/NA |
| Chlorobenzene | 17 | | 2.0 | 0.52 | ug/L | 2 | | 8260B | Total/NA |
| Ethylbenzene | 3.4 | | 2.0 | 0.66 | ug/L | 2 | | 8260B | Total/NA |
| Xylenes, Total | 1.3 | J | 2.0 | 0.46 | ug/L | 2 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 3.9 | | 2.0 | 0.86 | ug/L | 2 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 8.3 | | 2.0 | 0.92 | ug/L | 2 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 1.1 | J | 2.0 | 0.74 | ug/L | 2 | | 8260B | Total/NA |

## Client Sample ID: MW-17R — Lab Sample ID: 680-111248-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 8.1 | J | 10 | 7.0 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 0.79 | J | 1.0 | 0.33 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 57 | | 1.0 | 0.35 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-18R — Lab Sample ID: 680-111248-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.48 | J | 1.0 | 0.36 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-19 — Lab Sample ID: 680-111248-8

No Detections.

## Client Sample ID: MW-23 — Lab Sample ID: 680-111248-9

No Detections.

## Client Sample ID: MW-24R — Lab Sample ID: 680-111248-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 16 | | 5.0 | 2.5 | ug/L | 5 | | 8260B | Total/NA |
| Methyl tert-butyl ether | 130 | | 50 | 1.5 | ug/L | 5 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 300 | | 5.0 | 2.1 | ug/L | 5 | | 8260B | Total/NA |
| 2-Butanone | 23 | J | 50 | 17 | ug/L | 5 | | 8260B | Total/NA |
| Benzene | 3.9 | J | 5.0 | 2.2 | ug/L | 5 | | 8260B | Total/NA |

## Client Sample ID: MW-25 — Lab Sample ID: 680-111248-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Cyclohexane | 0.42 | J | 1.0 | 0.39 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 1.0 | | 1.0 | 0.35 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-26R — Lab Sample ID: 680-111248-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 180 | | 100 | 43 | ug/L | 100 | | 8260B | Total/NA |
| Toluene | 63 | J | 100 | 48 | ug/L | 100 | | 8260B | Total/NA |
| Chlorobenzene | 490 | | 100 | 26 | ug/L | 100 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

## Client Sample ID: MW-26R (Continued) — Lab Sample ID: 680-111248-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | 760 | | 100 | 33 | ug/L | 100 | | 8260B | Total/NA |
| Xylenes, Total | 11000 | | 100 | 23 | ug/L | 100 | | 8260B | Total/NA |

## Client Sample ID: MW-27 — Lab Sample ID: 680-111248-13

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 4.7 | | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| Methyl tert-butyl ether | 0.40 | J | 10 | 0.30 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 0.79 | J | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 3.0 | | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-28 — Lab Sample ID: 680-111248-14

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 8.1 | | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 33 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 1.6 | | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 1.1 | | 1.0 | 0.48 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 5.8 | | 1.0 | 0.74 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 8.2 | | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 1.8 | | 1.0 | 0.46 | ug/L | 1 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 0.39 | J | 1.0 | 0.37 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-29 — Lab Sample ID: 680-111248-15

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 790 | | 50 | 25 | ug/L | 50 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 18 | J | 50 | 18 | ug/L | 50 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 5900 | | 50 | 21 | ug/L | 50 | | 8260B | Total/NA |
| Trichloroethene | 90 | | 50 | 24 | ug/L | 50 | | 8260B | Total/NA |
| Toluene | 25 | J | 50 | 24 | ug/L | 50 | | 8260B | Total/NA |
| Tetrachloroethene | 160 | | 50 | 37 | ug/L | 50 | | 8260B | Total/NA |
| Chlorobenzene | 170 | | 50 | 13 | ug/L | 50 | | 8260B | Total/NA |
| Ethylbenzene | 3300 | | 50 | 17 | ug/L | 50 | | 8260B | Total/NA |
| Xylenes, Total | 7300 | | 50 | 12 | ug/L | 50 | | 8260B | Total/NA |
| Isopropylbenzene | 100 | | 50 | 18 | ug/L | 50 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 58 | | 50 | 22 | ug/L | 50 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 180 | | 50 | 23 | ug/L | 50 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 35 | J | 50 | 19 | ug/L | 50 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 160 | J | 250 | 130 | ug/L | 50 | | 8260B | Total/NA |

## Client Sample ID: MW-30 — Lab Sample ID: 680-111248-16

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 0.88 | J | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 1.7 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 0.72 | J | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 1.3 | | 1.0 | 0.23 | ug/L | 1 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

## Client Sample ID: MW-31 — Lab Sample ID: 680-111248-17

No Detections.

## Client Sample ID: MW-32 — Lab Sample ID: 680-111248-18

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Trichlorofluoromethane | 0.73 | J | 1.0 | 0.42 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-33 — Lab Sample ID: 680-111248-19

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 100 | | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 0.60 | J | 1.0 | 0.36 | ug/L | 1 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 2.2 | | 1.0 | 0.37 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 150 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 1.7 | | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 2.8 | | 1.0 | 0.48 | ug/L | 1 | | 8260B | Total/NA |
| Toluene | 1.7 | | 1.0 | 0.48 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 47 | | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 3.1 | | 1.0 | 0.33 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 11 | | 1.0 | 0.23 | ug/L | 1 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 22 | | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 93 | | 1.0 | 0.46 | ug/L | 1 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 9.2 | | 1.0 | 0.37 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 36 | | 5.0 | 2.5 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-34 — Lab Sample ID: 680-111248-20

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 2.6 | | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 9.9 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 0.47 | J | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 0.52 | J | 1.0 | 0.48 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 2.7 | | 1.0 | 0.74 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 2.3 | | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 0.67 | J | 1.0 | 0.46 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-35 — Lab Sample ID: 680-111248-21

No Detections.

## Client Sample ID: MW-36 — Lab Sample ID: 680-111248-22

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 0.59 | J | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-37 — Lab Sample ID: 680-111248-23

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 65 | | 2.0 | 1.0 | ug/L | 2 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 1.8 | J | 2.0 | 0.72 | ug/L | 2 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 1.0 | J | 2.0 | 0.74 | ug/L | 2 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 350 | | 2.0 | 0.82 | ug/L | 2 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

## Client Sample ID: MW-37 (Continued) — Lab Sample ID: 680-111248-23

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 6.4 | | 2.0 | 0.86 | ug/L | 2 | | 8260B | Total/NA |
| Trichloroethene | 8.5 | | 2.0 | 0.96 | ug/L | 2 | | 8260B | Total/NA |
| Tetrachloroethene | 19 | | 2.0 | 1.5 | ug/L | 2 | | 8260B | Total/NA |
| Chlorobenzene | 68 | | 2.0 | 0.52 | ug/L | 2 | | 8260B | Total/NA |
| Xylenes, Total | 0.77 | J | 2.0 | 0.46 | ug/L | 2 | | 8260B | Total/NA |
| Isopropylbenzene | 1.1 | J | 2.0 | 0.70 | ug/L | 2 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 7.4 | | 2.0 | 0.86 | ug/L | 2 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 46 | | 2.0 | 0.92 | ug/L | 2 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 13 | | 2.0 | 0.74 | ug/L | 2 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 56 | | 10 | 5.0 | ug/L | 2 | | 8260B | Total/NA |

## Client Sample ID: PAN-MW-9 — Lab Sample ID: 680-111248-24

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 130 | | 10 | 5.0 | ug/L | 10 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 6.7 | J | 10 | 3.6 | ug/L | 10 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 2000 | | 10 | 4.1 | ug/L | 10 | | 8260B | Total/NA |
| Benzene | 5.2 | J | 10 | 4.3 | ug/L | 10 | | 8260B | Total/NA |
| Trichloroethene | 4.9 | J | 10 | 4.8 | ug/L | 10 | | 8260B | Total/NA |
| Chlorobenzene | 33 | | 10 | 2.6 | ug/L | 10 | | 8260B | Total/NA |
| Ethylbenzene | 580 | | 10 | 3.3 | ug/L | 10 | | 8260B | Total/NA |
| Xylenes, Total | 1400 | | 10 | 2.3 | ug/L | 10 | | 8260B | Total/NA |
| Isopropylbenzene | 32 | | 10 | 3.5 | ug/L | 10 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 8.5 | J | 10 | 4.3 | ug/L | 10 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 28 | | 10 | 4.6 | ug/L | 10 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 5.3 | J | 10 | 3.7 | ug/L | 10 | | 8260B | Total/NA |

## Client Sample ID: PAN-MW-10 — Lab Sample ID: 680-111248-25

No Detections.

## Client Sample ID: Trip Blank — Lab Sample ID: 680-111248-26

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: IW-1R**
**Date Collected: 04/02/15 15:37**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-1**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <120 | | 200 | 120 | ug/L | | | 04/09/15 17:00 | 200 |
| Chloromethane | <80 | | 200 | 80 | ug/L | | | 04/09/15 17:00 | 200 |
| **Vinyl chloride** | **440** | | 200 | 100 | ug/L | | | 04/09/15 17:00 | 200 |
| Bromomethane | <500 | | 1000 | 500 | ug/L | | | 04/09/15 17:00 | 200 |
| Chloroethane | <500 | | 1000 | 500 | ug/L | | | 04/09/15 17:00 | 200 |
| Trichlorofluoromethane | <84 | | 200 | 84 | ug/L | | | 04/09/15 17:00 | 200 |
| 1,1-Dichloroethene | <72 | | 200 | 72 | ug/L | | | 04/09/15 17:00 | 200 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <72 | | 200 | 72 | ug/L | | | 04/09/15 17:00 | 200 |
| Acetone | <1400 | | 2000 | 1400 | ug/L | | | 04/09/15 17:00 | 200 |
| Carbon disulfide | <200 | | 400 | 200 | ug/L | | | 04/09/15 17:00 | 200 |
| Methyl acetate | <360 | | 1000 | 360 | ug/L | | | 04/09/15 17:00 | 200 |
| Methylene Chloride | <500 | | 1000 | 500 | ug/L | | | 04/09/15 17:00 | 200 |
| trans-1,2-Dichloroethene | <74 | | 200 | 74 | ug/L | | | 04/09/15 17:00 | 200 |
| Methyl tert-butyl ether | <60 | | 2000 | 60 | ug/L | | | 04/09/15 17:00 | 200 |
| 1,1-Dichloroethane | <76 | | 200 | 76 | ug/L | | | 04/09/15 17:00 | 200 |
| **cis-1,2-Dichloroethene** | **9900** | | 200 | 82 | ug/L | | | 04/09/15 17:00 | 200 |
| 2-Butanone | <680 | | 2000 | 680 | ug/L | | | 04/09/15 17:00 | 200 |
| Chloroform | <100 | | 200 | 100 | ug/L | | | 04/09/15 17:00 | 200 |
| 1,1,1-Trichloroethane | <74 | | 200 | 74 | ug/L | | | 04/09/15 17:00 | 200 |
| Cyclohexane | <78 | | 200 | 78 | ug/L | | | 04/09/15 17:00 | 200 |
| Carbon tetrachloride | <66 | | 200 | 66 | ug/L | | | 04/09/15 17:00 | 200 |
| **Benzene** | **110** | **J** | 200 | 86 | ug/L | | | 04/09/15 17:00 | 200 |
| 1,2-Dichloroethane | <100 | | 200 | 100 | ug/L | | | 04/09/15 17:00 | 200 |
| **Trichloroethene** | **150** | **J** | 200 | 96 | ug/L | | | 04/09/15 17:00 | 200 |
| Methylcyclohexane | <86 | | 200 | 86 | ug/L | | | 04/09/15 17:00 | 200 |
| 1,2-Dichloropropane | <130 | | 200 | 130 | ug/L | | | 04/09/15 17:00 | 200 |
| Bromodichloromethane | <88 | | 200 | 88 | ug/L | | | 04/09/15 17:00 | 200 |
| cis-1,3-Dichloropropene | <80 | | 200 | 80 | ug/L | | | 04/09/15 17:00 | 200 |
| 4-Methyl-2-pentanone | <420 | | 2000 | 420 | ug/L | | | 04/09/15 17:00 | 200 |
| **Toluene** | **260** | | 200 | 96 | ug/L | | | 04/09/15 17:00 | 200 |
| trans-1,3-Dichloropropene | <84 | | 200 | 84 | ug/L | | | 04/09/15 17:00 | 200 |
| 1,1,2-Trichloroethane | <66 | | 200 | 66 | ug/L | | | 04/09/15 17:00 | 200 |
| **Tetrachloroethene** | **310** | | 200 | 150 | ug/L | | | 04/09/15 17:00 | 200 |
| 2-Hexanone | <400 | | 2000 | 400 | ug/L | | | 04/09/15 17:00 | 200 |
| Dibromochloromethane | <64 | | 200 | 64 | ug/L | | | 04/09/15 17:00 | 200 |
| 1,2-Dibromoethane | <88 | | 200 | 88 | ug/L | | | 04/09/15 17:00 | 200 |
| **Chlorobenzene** | **920** | | 200 | 52 | ug/L | | | 04/09/15 17:00 | 200 |
| **Ethylbenzene** | **2300** | | 200 | 66 | ug/L | | | 04/09/15 17:00 | 200 |
| **Xylenes, Total** | **17000** | | 200 | 46 | ug/L | | | 04/09/15 17:00 | 200 |
| Styrene | <54 | | 200 | 54 | ug/L | | | 04/09/15 17:00 | 200 |
| Bromoform | <86 | | 200 | 86 | ug/L | | | 04/09/15 17:00 | 200 |
| Isopropylbenzene | <70 | | 200 | 70 | ug/L | | | 04/09/15 17:00 | 200 |
| 1,1,2,2-Tetrachloroethane | <120 | | 200 | 120 | ug/L | | | 04/09/15 17:00 | 200 |
| **1,3-Dichlorobenzene** | **110** | **J** | 200 | 86 | ug/L | | | 04/09/15 17:00 | 200 |
| **1,4-Dichlorobenzene** | **820** | | 200 | 92 | ug/L | | | 04/09/15 17:00 | 200 |
| **1,2-Dichlorobenzene** | **200** | | 200 | 74 | ug/L | | | 04/09/15 17:00 | 200 |
| 1,2-Dibromo-3-Chloropropane | <220 | | 1000 | 220 | ug/L | | | 04/09/15 17:00 | 200 |
| **1,2,4-Trichlorobenzene** | **1000** | | 1000 | 500 | ug/L | | | 04/09/15 17:00 | 200 |

**Client Sample ID: IW-1R**
**Lab Sample ID: 680-111248-1**
**Date Collected: 04/02/15 15:37**
**Matrix: Water**
**Date Received: 04/03/15 08:30**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 17:00* | *200* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/09/15 17:00* | *200* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *04/09/15 17:00* | *200* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *70 - 130* | | *04/09/15 17:00* | *200* |

**Client Sample ID: IW-18**
**Lab Sample ID: 680-111248-2**
**Date Collected: 04/02/15 12:36**
**Matrix: Water**
**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <6.0 | | 10 | 6.0 | ug/L | | | 04/10/15 12:49 | 10 |
| Chloromethane | <4.0 | | 10 | 4.0 | ug/L | | | 04/10/15 12:49 | 10 |
| **Vinyl chloride** | **830** | | 10 | 5.0 | ug/L | | | 04/10/15 12:49 | 10 |
| Bromomethane | <25 | | 50 | 25 | ug/L | | | 04/10/15 12:49 | 10 |
| Chloroethane | <25 | | 50 | 25 | ug/L | | | 04/10/15 12:49 | 10 |
| Trichlorofluoromethane | <4.2 | | 10 | 4.2 | ug/L | | | 04/10/15 12:49 | 10 |
| 1,1-Dichloroethene | <3.6 | | 10 | 3.6 | ug/L | | | 04/10/15 12:49 | 10 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <3.6 | | 10 | 3.6 | ug/L | | | 04/10/15 12:49 | 10 |
| Acetone | <70 | | 100 | 70 | ug/L | | | 04/10/15 12:49 | 10 |
| Carbon disulfide | <10 | | 20 | 10 | ug/L | | | 04/10/15 12:49 | 10 |
| Methyl acetate | <18 | | 50 | 18 | ug/L | | | 04/10/15 12:49 | 10 |
| Methylene Chloride | <25 | | 50 | 25 | ug/L | | | 04/10/15 12:49 | 10 |
| **trans-1,2-Dichloroethene** | **4.4** | **J** | 10 | 3.7 | ug/L | | | 04/10/15 12:49 | 10 |
| Methyl tert-butyl ether | <3.0 | | 100 | 3.0 | ug/L | | | 04/10/15 12:49 | 10 |
| 1,1-Dichloroethane | <3.8 | | 10 | 3.8 | ug/L | | | 04/10/15 12:49 | 10 |
| **cis-1,2-Dichloroethene** | **920** | | 10 | 4.1 | ug/L | | | 04/10/15 12:49 | 10 |
| 2-Butanone | <34 | | 100 | 34 | ug/L | | | 04/10/15 12:49 | 10 |
| Chloroform | <5.0 | | 10 | 5.0 | ug/L | | | 04/10/15 12:49 | 10 |
| 1,1,1-Trichloroethane | <3.7 | | 10 | 3.7 | ug/L | | | 04/10/15 12:49 | 10 |
| Cyclohexane | <3.9 | | 10 | 3.9 | ug/L | | | 04/10/15 12:49 | 10 |
| Carbon tetrachloride | <3.3 | | 10 | 3.3 | ug/L | | | 04/10/15 12:49 | 10 |
| **Benzene** | **350** | | 10 | 4.3 | ug/L | | | 04/10/15 12:49 | 10 |
| 1,2-Dichloroethane | <5.0 | | 10 | 5.0 | ug/L | | | 04/10/15 12:49 | 10 |
| **Trichloroethene** | **8.4** | **J** | 10 | 4.8 | ug/L | | | 04/10/15 12:49 | 10 |
| Methylcyclohexane | <4.3 | | 10 | 4.3 | ug/L | | | 04/10/15 12:49 | 10 |
| 1,2-Dichloropropane | <6.7 | | 10 | 6.7 | ug/L | | | 04/10/15 12:49 | 10 |
| Bromodichloromethane | <4.4 | | 10 | 4.4 | ug/L | | | 04/10/15 12:49 | 10 |
| cis-1,3-Dichloropropene | <4.0 | | 10 | 4.0 | ug/L | | | 04/10/15 12:49 | 10 |
| 4-Methyl-2-pentanone | <21 | | 100 | 21 | ug/L | | | 04/10/15 12:49 | 10 |
| **Toluene** | **14** | | 10 | 4.8 | ug/L | | | 04/10/15 12:49 | 10 |
| trans-1,3-Dichloropropene | <4.2 | | 10 | 4.2 | ug/L | | | 04/10/15 12:49 | 10 |
| 1,1,2-Trichloroethane | <3.3 | | 10 | 3.3 | ug/L | | | 04/10/15 12:49 | 10 |
| Tetrachloroethene | <7.4 | | 10 | 7.4 | ug/L | | | 04/10/15 12:49 | 10 |
| 2-Hexanone | <20 | | 100 | 20 | ug/L | | | 04/10/15 12:49 | 10 |
| Dibromochloromethane | <3.2 | | 10 | 3.2 | ug/L | | | 04/10/15 12:49 | 10 |
| 1,2-Dibromoethane | <4.4 | | 10 | 4.4 | ug/L | | | 04/10/15 12:49 | 10 |
| **Chlorobenzene** | **960** | | 10 | 2.6 | ug/L | | | 04/10/15 12:49 | 10 |
| **Ethylbenzene** | **180** | | 10 | 3.3 | ug/L | | | 04/10/15 12:49 | 10 |
| **Xylenes, Total** | **1300** | | 10 | 2.3 | ug/L | | | 04/10/15 12:49 | 10 |

**Client Sample ID: IW-18** — **Lab Sample ID: 680-111248-2**
**Date Collected: 04/02/15 12:36** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <2.7 | | 10 | 2.7 | ug/L | | | 04/10/15 12:49 | 10 |
| Bromoform | <4.3 | | 10 | 4.3 | ug/L | | | 04/10/15 12:49 | 10 |
| **Isopropylbenzene** | **4.5** | **J** | 10 | 3.5 | ug/L | | | 04/10/15 12:49 | 10 |
| 1,1,2,2-Tetrachloroethane | <6.2 | | 10 | 6.2 | ug/L | | | 04/10/15 12:49 | 10 |
| **1,3-Dichlorobenzene** | **7.4** | **J** | 10 | 4.3 | ug/L | | | 04/10/15 12:49 | 10 |
| **1,4-Dichlorobenzene** | **31** | | 10 | 4.6 | ug/L | | | 04/10/15 12:49 | 10 |
| **1,2-Dichlorobenzene** | **7.0** | **J** | 10 | 3.7 | ug/L | | | 04/10/15 12:49 | 10 |
| 1,2-Dibromo-3-Chloropropane | <11 | | 50 | 11 | ug/L | | | 04/10/15 12:49 | 10 |
| 1,2,4-Trichlorobenzene | <25 | | 50 | 25 | ug/L | | | 04/10/15 12:49 | 10 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *04/10/15 12:49* | *10* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/10/15 12:49* | *10* |
| *Dibromofluoromethane (Surr)* | *106* | | *70 - 130* | | *04/10/15 12:49* | *10* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *04/10/15 12:49* | *10* |

**Client Sample ID: LAW-PZ-8R** — **Lab Sample ID: 680-111248-3**
**Date Collected: 04/02/15 16:57** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <600 | | 1000 | 600 | ug/L | | | 04/09/15 17:22 | 1000 |
| Chloromethane | <400 | | 1000 | 400 | ug/L | | | 04/09/15 17:22 | 1000 |
| Vinyl chloride | <500 | | 1000 | 500 | ug/L | | | 04/09/15 17:22 | 1000 |
| Bromomethane | <2500 | | 5000 | 2500 | ug/L | | | 04/09/15 17:22 | 1000 |
| Chloroethane | <2500 | | 5000 | 2500 | ug/L | | | 04/09/15 17:22 | 1000 |
| Trichlorofluoromethane | <420 | | 1000 | 420 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,1-Dichloroethene | <360 | | 1000 | 360 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <360 | | 1000 | 360 | ug/L | | | 04/09/15 17:22 | 1000 |
| Acetone | <7000 | | 10000 | 7000 | ug/L | | | 04/09/15 17:22 | 1000 |
| Carbon disulfide | <1000 | | 2000 | 1000 | ug/L | | | 04/09/15 17:22 | 1000 |
| Methyl acetate | <1800 | | 5000 | 1800 | ug/L | | | 04/09/15 17:22 | 1000 |
| Methylene Chloride | <2500 | | 5000 | 2500 | ug/L | | | 04/09/15 17:22 | 1000 |
| trans-1,2-Dichloroethene | <370 | | 1000 | 370 | ug/L | | | 04/09/15 17:22 | 1000 |
| Methyl tert-butyl ether | <300 | | 10000 | 300 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,1-Dichloroethane | <380 | | 1000 | 380 | ug/L | | | 04/09/15 17:22 | 1000 |
| **cis-1,2-Dichloroethene** | **4100** | | 1000 | 410 | ug/L | | | 04/09/15 17:22 | 1000 |
| 2-Butanone | <3400 | | 10000 | 3400 | ug/L | | | 04/09/15 17:22 | 1000 |
| Chloroform | <500 | | 1000 | 500 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,1,1-Trichloroethane | <370 | | 1000 | 370 | ug/L | | | 04/09/15 17:22 | 1000 |
| Cyclohexane | <390 | | 1000 | 390 | ug/L | | | 04/09/15 17:22 | 1000 |
| Carbon tetrachloride | <330 | | 1000 | 330 | ug/L | | | 04/09/15 17:22 | 1000 |
| **Benzene** | **1100** | | 1000 | 430 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,2-Dichloroethane | <500 | | 1000 | 500 | ug/L | | | 04/09/15 17:22 | 1000 |
| Trichloroethene | <480 | | 1000 | 480 | ug/L | | | 04/09/15 17:22 | 1000 |
| Methylcyclohexane | <430 | | 1000 | 430 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,2-Dichloropropane | <670 | | 1000 | 670 | ug/L | | | 04/09/15 17:22 | 1000 |
| Bromodichloromethane | <440 | | 1000 | 440 | ug/L | | | 04/09/15 17:22 | 1000 |
| cis-1,3-Dichloropropene | <400 | | 1000 | 400 | ug/L | | | 04/09/15 17:22 | 1000 |

**Client Sample ID: LAW-PZ-8R** — **Lab Sample ID: 680-111248-3**
**Date Collected: 04/02/15 16:57** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2100 | | 10000 | 2100 | ug/L | | | 04/09/15 17:22 | 1000 |
| Toluene | <480 | | 1000 | 480 | ug/L | | | 04/09/15 17:22 | 1000 |
| trans-1,3-Dichloropropene | <420 | | 1000 | 420 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,1,2-Trichloroethane | <330 | | 1000 | 330 | ug/L | | | 04/09/15 17:22 | 1000 |
| Tetrachloroethene | <740 | | 1000 | 740 | ug/L | | | 04/09/15 17:22 | 1000 |
| 2-Hexanone | <2000 | | 10000 | 2000 | ug/L | | | 04/09/15 17:22 | 1000 |
| Dibromochloromethane | <320 | | 1000 | 320 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,2-Dibromoethane | <440 | | 1000 | 440 | ug/L | | | 04/09/15 17:22 | 1000 |
| **Chlorobenzene** | **3700** | | 1000 | 260 | ug/L | | | 04/09/15 17:22 | 1000 |
| **Ethylbenzene** | **6900** | | 1000 | 330 | ug/L | | | 04/09/15 17:22 | 1000 |
| **Xylenes, Total** | **87000** | | 1000 | 230 | ug/L | | | 04/09/15 17:22 | 1000 |
| Styrene | <270 | | 1000 | 270 | ug/L | | | 04/09/15 17:22 | 1000 |
| Bromoform | <430 | | 1000 | 430 | ug/L | | | 04/09/15 17:22 | 1000 |
| Isopropylbenzene | <350 | | 1000 | 350 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,1,2,2-Tetrachloroethane | <620 | | 1000 | 620 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,3-Dichlorobenzene | <430 | | 1000 | 430 | ug/L | | | 04/09/15 17:22 | 1000 |
| **1,4-Dichlorobenzene** | **960** | **J** | 1000 | 460 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,2-Dichlorobenzene | <370 | | 1000 | 370 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,2-Dibromo-3-Chloropropane | <1100 | | 5000 | 1100 | ug/L | | | 04/09/15 17:22 | 1000 |
| 1,2,4-Trichlorobenzene | <2500 | | 5000 | 2500 | ug/L | | | 04/09/15 17:22 | 1000 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 17:22* | *1000* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/09/15 17:22* | *1000* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *04/09/15 17:22* | *1000* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *70 - 130* | | *04/09/15 17:22* | *1000* |

**Client Sample ID: MW-14** — **Lab Sample ID: 680-111248-4**
**Date Collected: 04/01/15 18:23** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 11:38 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 11:38 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 11:38 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:38 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:38 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 11:38 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 11:38 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 11:38 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 11:38 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:38 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 11:38 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 11:38 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 11:38 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 11:38 | 1 |

**Client Sample ID: MW-14** — **Lab Sample ID: 680-111248-4**
**Date Collected: 04/01/15 18:23** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 11:38 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 11:38 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 11:38 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 11:38 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 11:38 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 11:38 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 11:38 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 11:38 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 11:38 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 11:38 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 11:38 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 11:38 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 11:38 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 11:38 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 11:38 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 11:38 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 11:38 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 11:38 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:38 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 11:38 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:38 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *04/09/15 11:38* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *91* | | *70 - 130* | | *04/09/15 11:38* | *1* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *04/09/15 11:38* | *1* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *70 - 130* | | *04/09/15 11:38* | *1* |

**Client Sample ID: MW-16** — **Lab Sample ID: 680-111248-5**
**Date Collected: 04/02/15 11:21** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <1.2 | | 2.0 | 1.2 | ug/L | | | 04/10/15 11:46 | 2 |
| Chloromethane | <0.80 | | 2.0 | 0.80 | ug/L | | | 04/10/15 11:46 | 2 |
| **Vinyl chloride** | **120** | | 2.0 | 1.0 | ug/L | | | 04/10/15 11:46 | 2 |
| Bromomethane | <5.0 | | 10 | 5.0 | ug/L | | | 04/10/15 11:46 | 2 |
| Chloroethane | <5.0 | | 10 | 5.0 | ug/L | | | 04/10/15 11:46 | 2 |
| Trichlorofluoromethane | <0.84 | | 2.0 | 0.84 | ug/L | | | 04/10/15 11:46 | 2 |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: MW-16**
**Date Collected: 04/02/15 11:21**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-5**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **1,1-Dichloroethene** | **0.90** | **J** | 2.0 | 0.72 | ug/L | | | 04/10/15 11:46 | 2 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.72 | | 2.0 | 0.72 | ug/L | | | 04/10/15 11:46 | 2 |
| Acetone | <14 | | 20 | 14 | ug/L | | | 04/10/15 11:46 | 2 |
| Carbon disulfide | <2.0 | | 4.0 | 2.0 | ug/L | | | 04/10/15 11:46 | 2 |
| Methyl acetate | <3.6 | | 10 | 3.6 | ug/L | | | 04/10/15 11:46 | 2 |
| Methylene Chloride | <5.0 | | 10 | 5.0 | ug/L | | | 04/10/15 11:46 | 2 |
| **trans-1,2-Dichloroethene** | **1.0** | **J** | 2.0 | 0.74 | ug/L | | | 04/10/15 11:46 | 2 |
| Methyl tert-butyl ether | <0.60 | | 20 | 0.60 | ug/L | | | 04/10/15 11:46 | 2 |
| 1,1-Dichloroethane | <0.76 | | 2.0 | 0.76 | ug/L | | | 04/10/15 11:46 | 2 |
| **cis-1,2-Dichloroethene** | **210** | | 2.0 | 0.82 | ug/L | | | 04/10/15 11:46 | 2 |
| 2-Butanone | <6.8 | | 20 | 6.8 | ug/L | | | 04/10/15 11:46 | 2 |
| Chloroform | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/10/15 11:46 | 2 |
| 1,1,1-Trichloroethane | <0.74 | | 2.0 | 0.74 | ug/L | | | 04/10/15 11:46 | 2 |
| Cyclohexane | <0.78 | | 2.0 | 0.78 | ug/L | | | 04/10/15 11:46 | 2 |
| Carbon tetrachloride | <0.66 | | 2.0 | 0.66 | ug/L | | | 04/10/15 11:46 | 2 |
| **Benzene** | **2.7** | | 2.0 | 0.86 | ug/L | | | 04/10/15 11:46 | 2 |
| 1,2-Dichloroethane | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/10/15 11:46 | 2 |
| **Trichloroethene** | **6.0** | | 2.0 | 0.96 | ug/L | | | 04/10/15 11:46 | 2 |
| Methylcyclohexane | <0.86 | | 2.0 | 0.86 | ug/L | | | 04/10/15 11:46 | 2 |
| 1,2-Dichloropropane | <1.3 | | 2.0 | 1.3 | ug/L | | | 04/10/15 11:46 | 2 |
| Bromodichloromethane | <0.88 | | 2.0 | 0.88 | ug/L | | | 04/10/15 11:46 | 2 |
| cis-1,3-Dichloropropene | <0.80 | | 2.0 | 0.80 | ug/L | | | 04/10/15 11:46 | 2 |
| 4-Methyl-2-pentanone | <4.2 | | 20 | 4.2 | ug/L | | | 04/10/15 11:46 | 2 |
| Toluene | <0.96 | | 2.0 | 0.96 | ug/L | | | 04/10/15 11:46 | 2 |
| trans-1,3-Dichloropropene | <0.84 | | 2.0 | 0.84 | ug/L | | | 04/10/15 11:46 | 2 |
| 1,1,2-Trichloroethane | <0.66 | | 2.0 | 0.66 | ug/L | | | 04/10/15 11:46 | 2 |
| Tetrachloroethene | <1.5 | | 2.0 | 1.5 | ug/L | | | 04/10/15 11:46 | 2 |
| 2-Hexanone | <4.0 | | 20 | 4.0 | ug/L | | | 04/10/15 11:46 | 2 |
| Dibromochloromethane | <0.64 | | 2.0 | 0.64 | ug/L | | | 04/10/15 11:46 | 2 |
| 1,2-Dibromoethane | <0.88 | | 2.0 | 0.88 | ug/L | | | 04/10/15 11:46 | 2 |
| **Chlorobenzene** | **17** | | 2.0 | 0.52 | ug/L | | | 04/10/15 11:46 | 2 |
| **Ethylbenzene** | **3.4** | | 2.0 | 0.66 | ug/L | | | 04/10/15 11:46 | 2 |
| **Xylenes, Total** | **1.3** | **J** | 2.0 | 0.46 | ug/L | | | 04/10/15 11:46 | 2 |
| Styrene | <0.54 | | 2.0 | 0.54 | ug/L | | | 04/10/15 11:46 | 2 |
| Bromoform | <0.86 | | 2.0 | 0.86 | ug/L | | | 04/10/15 11:46 | 2 |
| Isopropylbenzene | <0.70 | | 2.0 | 0.70 | ug/L | | | 04/10/15 11:46 | 2 |
| 1,1,2,2-Tetrachloroethane | <1.2 | | 2.0 | 1.2 | ug/L | | | 04/10/15 11:46 | 2 |
| **1,3-Dichlorobenzene** | **3.9** | | 2.0 | 0.86 | ug/L | | | 04/10/15 11:46 | 2 |
| **1,4-Dichlorobenzene** | **8.3** | | 2.0 | 0.92 | ug/L | | | 04/10/15 11:46 | 2 |
| **1,2-Dichlorobenzene** | **1.1** | **J** | 2.0 | 0.74 | ug/L | | | 04/10/15 11:46 | 2 |
| 1,2-Dibromo-3-Chloropropane | <2.2 | | 10 | 2.2 | ug/L | | | 04/10/15 11:46 | 2 |
| 1,2,4-Trichlorobenzene | <5.0 | | 10 | 5.0 | ug/L | | | 04/10/15 11:46 | 2 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *04/10/15 11:46* | *2* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* | | *04/10/15 11:46* | *2* |
| *Dibromofluoromethane (Surr)* | *106* | | *70 - 130* | | *04/10/15 11:46* | *2* |
| *4-Bromofluorobenzene (Surr)* | *96* | | *70 - 130* | | *04/10/15 11:46* | *2* |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: MW-17R**
**Date Collected: 03/31/15 16:58**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-6**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 12:21 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 12:21 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 12:21 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 12:21 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 12:21 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 12:21 | 1 |
| **Acetone** | **8.1** | **J** | 10 | 7.0 | ug/L | | | 04/09/15 12:21 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 12:21 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 12:21 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 12:21 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 12:21 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 12:21 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 12:21 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 12:21 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 12:21 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 12:21 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 12:21 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 12:21 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 12:21 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 12:21 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 12:21 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 12:21 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 12:21 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 12:21 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 12:21 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 12:21 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 12:21 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 12:21 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 12:21 | 1 |
| **Ethylbenzene** | **0.79** | **J** | 1.0 | 0.33 | ug/L | | | 04/09/15 12:21 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 12:21 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 12:21 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 12:21 | 1 |
| **Isopropylbenzene** | **57** | | 1.0 | 0.35 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 12:21 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 12:21 | 1 |

## Client Sample ID: MW-17R

**Lab Sample ID: 680-111248-6**

**Date Collected: 03/31/15 16:58**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 12:21* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *91* | | *70 - 130* | | *04/09/15 12:21* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *04/09/15 12:21* | *1* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *70 - 130* | | *04/09/15 12:21* | *1* |

## Client Sample ID: MW-18R

**Lab Sample ID: 680-111248-7**

**Date Collected: 03/30/15 09:49**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 12:42 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 12:42 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 12:42 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 12:42 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 12:42 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 12:42 | 1 |
| **1,1-Dichloroethene** | **0.48** | **J** | 1.0 | 0.36 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 12:42 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 12:42 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 12:42 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 12:42 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 12:42 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 12:42 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 12:42 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 12:42 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 12:42 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 12:42 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 12:42 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 12:42 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 12:42 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 12:42 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 12:42 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 12:42 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 12:42 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 12:42 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 12:42 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 12:42 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 12:42 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 12:42 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 12:42 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 12:42 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 12:42 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 12:42 | 1 |

**Client Sample ID: MW-18R**
**Lab Sample ID: 680-111248-7**
**Date Collected: 03/30/15 09:49**
**Matrix: Water**
**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 12:42 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 12:42 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 12:42 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 12:42 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 12:42* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/09/15 12:42* | *1* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *04/09/15 12:42* | *1* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *70 - 130* | | *04/09/15 12:42* | *1* |

**Client Sample ID: MW-19**
**Lab Sample ID: 680-111248-8**
**Date Collected: 03/30/15 12:23**
**Matrix: Water**
**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 13:04 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 13:04 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 13:04 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:04 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:04 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 13:04 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 13:04 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 13:04 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 13:04 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:04 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 13:04 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 13:04 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 13:04 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 13:04 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 13:04 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 13:04 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 13:04 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 13:04 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 13:04 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 13:04 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 13:04 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 13:04 | 1 |

**Client Sample ID: MW-19** — **Lab Sample ID: 680-111248-8**
**Date Collected: 03/30/15 12:23** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 13:04 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 13:04 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 13:04 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 13:04 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 13:04 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 13:04 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 13:04 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 13:04 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 13:04 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 13:04 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:04 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 13:04 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:04 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 13:04* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *91* | | *70 - 130* | | *04/09/15 13:04* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *04/09/15 13:04* | *1* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *70 - 130* | | *04/09/15 13:04* | *1* |

**Client Sample ID: MW-23** — **Lab Sample ID: 680-111248-9**
**Date Collected: 03/30/15 14:29** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 13:25 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 13:25 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 13:25 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:25 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:25 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 13:25 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 13:25 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 13:25 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 13:25 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:25 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 13:25 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 13:25 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 13:25 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 13:25 | 1 |

**Client Sample ID: MW-23**
**Lab Sample ID: 680-111248-9**
**Date Collected: 03/30/15 14:29**
**Matrix: Water**
**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 13:25 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 13:25 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 13:25 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 13:25 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 13:25 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 13:25 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 13:25 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 13:25 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 13:25 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 13:25 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 13:25 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 13:25 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 13:25 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 13:25 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 13:25 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 13:25 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 13:25 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 13:25 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:25 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 13:25 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:25 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 13:25* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/09/15 13:25* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *04/09/15 13:25* | *1* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | | *04/09/15 13:25* | *1* |

**Client Sample ID: MW-24R**
**Lab Sample ID: 680-111248-10**
**Date Collected: 04/01/15 10:33**
**Matrix: Water**
**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <3.0 | | 5.0 | 3.0 | ug/L | | | 04/10/15 12:28 | 5 |
| Chloromethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 04/10/15 12:28 | 5 |
| **Vinyl chloride** | **16** | | 5.0 | 2.5 | ug/L | | | 04/10/15 12:28 | 5 |
| Bromomethane | <13 | | 25 | 13 | ug/L | | | 04/10/15 12:28 | 5 |
| Chloroethane | <13 | | 25 | 13 | ug/L | | | 04/10/15 12:28 | 5 |
| Trichlorofluoromethane | <2.1 | | 5.0 | 2.1 | ug/L | | | 04/10/15 12:28 | 5 |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: MW-24R**
**Date Collected: 04/01/15 10:33**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-10**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/10/15 12:28 | 5 |
| Acetone | <35 | | 50 | 35 | ug/L | | | 04/10/15 12:28 | 5 |
| Carbon disulfide | <5.0 | | 10 | 5.0 | ug/L | | | 04/10/15 12:28 | 5 |
| Methyl acetate | <9.0 | | 25 | 9.0 | ug/L | | | 04/10/15 12:28 | 5 |
| Methylene Chloride | <13 | | 25 | 13 | ug/L | | | 04/10/15 12:28 | 5 |
| trans-1,2-Dichloroethene | <1.9 | | 5.0 | 1.9 | ug/L | | | 04/10/15 12:28 | 5 |
| **Methyl tert-butyl ether** | **130** | | 50 | 1.5 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,1-Dichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 04/10/15 12:28 | 5 |
| **cis-1,2-Dichloroethene** | **300** | | 5.0 | 2.1 | ug/L | | | 04/10/15 12:28 | 5 |
| **2-Butanone** | **23** | **J** | 50 | 17 | ug/L | | | 04/10/15 12:28 | 5 |
| Chloroform | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,1,1-Trichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 04/10/15 12:28 | 5 |
| Cyclohexane | <2.0 | | 5.0 | 2.0 | ug/L | | | 04/10/15 12:28 | 5 |
| Carbon tetrachloride | <1.7 | | 5.0 | 1.7 | ug/L | | | 04/10/15 12:28 | 5 |
| **Benzene** | **3.9** | **J** | 5.0 | 2.2 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,2-Dichloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/10/15 12:28 | 5 |
| Trichloroethene | <2.4 | | 5.0 | 2.4 | ug/L | | | 04/10/15 12:28 | 5 |
| Methylcyclohexane | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,2-Dichloropropane | <3.4 | | 5.0 | 3.4 | ug/L | | | 04/10/15 12:28 | 5 |
| Bromodichloromethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/10/15 12:28 | 5 |
| cis-1,3-Dichloropropene | <2.0 | | 5.0 | 2.0 | ug/L | | | 04/10/15 12:28 | 5 |
| 4-Methyl-2-pentanone | <11 | | 50 | 11 | ug/L | | | 04/10/15 12:28 | 5 |
| Toluene | <2.4 | | 5.0 | 2.4 | ug/L | | | 04/10/15 12:28 | 5 |
| trans-1,3-Dichloropropene | <2.1 | | 5.0 | 2.1 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,1,2-Trichloroethane | <1.7 | | 5.0 | 1.7 | ug/L | | | 04/10/15 12:28 | 5 |
| Tetrachloroethene | <3.7 | | 5.0 | 3.7 | ug/L | | | 04/10/15 12:28 | 5 |
| 2-Hexanone | <10 | | 50 | 10 | ug/L | | | 04/10/15 12:28 | 5 |
| Dibromochloromethane | <1.6 | | 5.0 | 1.6 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,2-Dibromoethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/10/15 12:28 | 5 |
| Chlorobenzene | <1.3 | | 5.0 | 1.3 | ug/L | | | 04/10/15 12:28 | 5 |
| Ethylbenzene | <1.7 | | 5.0 | 1.7 | ug/L | | | 04/10/15 12:28 | 5 |
| Xylenes, Total | <1.2 | | 5.0 | 1.2 | ug/L | | | 04/10/15 12:28 | 5 |
| Styrene | <1.4 | | 5.0 | 1.4 | ug/L | | | 04/10/15 12:28 | 5 |
| Bromoform | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/10/15 12:28 | 5 |
| Isopropylbenzene | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,1,2,2-Tetrachloroethane | <3.1 | | 5.0 | 3.1 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,3-Dichlorobenzene | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,4-Dichlorobenzene | <2.3 | | 5.0 | 2.3 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,2-Dichlorobenzene | <1.9 | | 5.0 | 1.9 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,2-Dibromo-3-Chloropropane | <5.5 | | 25 | 5.5 | ug/L | | | 04/10/15 12:28 | 5 |
| 1,2,4-Trichlorobenzene | <13 | | 25 | 13 | ug/L | | | 04/10/15 12:28 | 5 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *04/10/15 12:28* | *5* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/10/15 12:28* | *5* |
| *Dibromofluoromethane (Surr)* | *105* | | *70 - 130* | | *04/10/15 12:28* | *5* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *04/10/15 12:28* | *5* |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: MW-25**
**Date Collected: 03/30/15 11:23**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-11**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 13:47 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 13:47 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 13:47 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:47 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:47 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 13:47 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 13:47 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 13:47 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 13:47 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:47 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 13:47 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 13:47 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 13:47 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 13:47 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 13:47 | 1 |
| **Cyclohexane** | **0.42** | **J** | 1.0 | 0.39 | ug/L | | | 04/09/15 13:47 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 13:47 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 13:47 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 13:47 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 13:47 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 13:47 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 13:47 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 13:47 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 13:47 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 13:47 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 13:47 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 13:47 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 13:47 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 13:47 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 13:47 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 13:47 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 13:47 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:47 | 1 |
| **Isopropylbenzene** | **1.0** | | 1.0 | 0.35 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 13:47 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 13:47 | 1 |

## Client Sample ID: MW-25

**Lab Sample ID: 680-111248-11**

**Date Collected: 03/30/15 11:23**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* | | *04/09/15 13:47* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/09/15 13:47* | *1* |
| *Dibromofluoromethane (Surr)* | *100* | | *70 - 130* | | *04/09/15 13:47* | *1* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | | *04/09/15 13:47* | *1* |

## Client Sample ID: MW-26R

**Lab Sample ID: 680-111248-12**

**Date Collected: 04/02/15 10:05**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <60 | | 100 | 60 | ug/L | | | 04/10/15 13:31 | 100 |
| Chloromethane | <40 | | 100 | 40 | ug/L | | | 04/10/15 13:31 | 100 |
| Vinyl chloride | <50 | | 100 | 50 | ug/L | | | 04/10/15 13:31 | 100 |
| Bromomethane | <250 | | 500 | 250 | ug/L | | | 04/10/15 13:31 | 100 |
| Chloroethane | <250 | | 500 | 250 | ug/L | | | 04/10/15 13:31 | 100 |
| Trichlorofluoromethane | <42 | | 100 | 42 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,1-Dichloroethene | <36 | | 100 | 36 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <36 | | 100 | 36 | ug/L | | | 04/10/15 13:31 | 100 |
| Acetone | <700 | | 1000 | 700 | ug/L | | | 04/10/15 13:31 | 100 |
| Carbon disulfide | <100 | | 200 | 100 | ug/L | | | 04/10/15 13:31 | 100 |
| Methyl acetate | <180 | | 500 | 180 | ug/L | | | 04/10/15 13:31 | 100 |
| Methylene Chloride | <250 | | 500 | 250 | ug/L | | | 04/10/15 13:31 | 100 |
| trans-1,2-Dichloroethene | <37 | | 100 | 37 | ug/L | | | 04/10/15 13:31 | 100 |
| Methyl tert-butyl ether | <30 | | 1000 | 30 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,1-Dichloroethane | <38 | | 100 | 38 | ug/L | | | 04/10/15 13:31 | 100 |
| cis-1,2-Dichloroethene | <41 | | 100 | 41 | ug/L | | | 04/10/15 13:31 | 100 |
| 2-Butanone | <340 | | 1000 | 340 | ug/L | | | 04/10/15 13:31 | 100 |
| Chloroform | <50 | | 100 | 50 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,1,1-Trichloroethane | <37 | | 100 | 37 | ug/L | | | 04/10/15 13:31 | 100 |
| Cyclohexane | <39 | | 100 | 39 | ug/L | | | 04/10/15 13:31 | 100 |
| Carbon tetrachloride | <33 | | 100 | 33 | ug/L | | | 04/10/15 13:31 | 100 |
| **Benzene** | **180** | | 100 | 43 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,2-Dichloroethane | <50 | | 100 | 50 | ug/L | | | 04/10/15 13:31 | 100 |
| Trichloroethene | <48 | | 100 | 48 | ug/L | | | 04/10/15 13:31 | 100 |
| Methylcyclohexane | <43 | | 100 | 43 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,2-Dichloropropane | <67 | | 100 | 67 | ug/L | | | 04/10/15 13:31 | 100 |
| Bromodichloromethane | <44 | | 100 | 44 | ug/L | | | 04/10/15 13:31 | 100 |
| cis-1,3-Dichloropropene | <40 | | 100 | 40 | ug/L | | | 04/10/15 13:31 | 100 |
| 4-Methyl-2-pentanone | <210 | | 1000 | 210 | ug/L | | | 04/10/15 13:31 | 100 |
| **Toluene** | **63** | **J** | 100 | 48 | ug/L | | | 04/10/15 13:31 | 100 |
| trans-1,3-Dichloropropene | <42 | | 100 | 42 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,1,2-Trichloroethane | <33 | | 100 | 33 | ug/L | | | 04/10/15 13:31 | 100 |
| Tetrachloroethene | <74 | | 100 | 74 | ug/L | | | 04/10/15 13:31 | 100 |
| 2-Hexanone | <200 | | 1000 | 200 | ug/L | | | 04/10/15 13:31 | 100 |
| Dibromochloromethane | <32 | | 100 | 32 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,2-Dibromoethane | <44 | | 100 | 44 | ug/L | | | 04/10/15 13:31 | 100 |
| **Chlorobenzene** | **490** | | 100 | 26 | ug/L | | | 04/10/15 13:31 | 100 |
| **Ethylbenzene** | **760** | | 100 | 33 | ug/L | | | 04/10/15 13:31 | 100 |
| **Xylenes, Total** | **11000** | | 100 | 23 | ug/L | | | 04/10/15 13:31 | 100 |

## Client Sample ID: MW-26R

**Lab Sample ID: 680-111248-12**

**Date Collected: 04/02/15 10:05**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <27 | | 100 | 27 | ug/L | | | 04/10/15 13:31 | 100 |
| Bromoform | <43 | | 100 | 43 | ug/L | | | 04/10/15 13:31 | 100 |
| Isopropylbenzene | <35 | | 100 | 35 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,1,2,2-Tetrachloroethane | <62 | | 100 | 62 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,3-Dichlorobenzene | <43 | | 100 | 43 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,4-Dichlorobenzene | <46 | | 100 | 46 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,2-Dichlorobenzene | <37 | | 100 | 37 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,2-Dibromo-3-Chloropropane | <110 | | 500 | 110 | ug/L | | | 04/10/15 13:31 | 100 |
| 1,2,4-Trichlorobenzene | <250 | | 500 | 250 | ug/L | | | 04/10/15 13:31 | 100 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *04/10/15 13:31* | *100* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/10/15 13:31* | *100* |
| *Dibromofluoromethane (Surr)* | *106* | | *70 - 130* | | *04/10/15 13:31* | *100* |
| *4-Bromofluorobenzene (Surr)* | *96* | | *70 - 130* | | *04/10/15 13:31* | *100* |

## Client Sample ID: MW-27

**Lab Sample ID: 680-111248-13**

**Date Collected: 03/30/15 16:18**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 14:08 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 14:08 | 1 |
| **Vinyl chloride** | **4.7** | | 1.0 | 0.50 | ug/L | | | 04/09/15 14:08 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:08 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:08 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 14:08 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 14:08 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 14:08 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 14:08 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:08 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 14:08 | 1 |
| **Methyl tert-butyl ether** | **0.40** | **J** | 10 | 0.30 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 14:08 | 1 |
| **cis-1,2-Dichloroethene** | **0.79** | **J** | 1.0 | 0.41 | ug/L | | | 04/09/15 14:08 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 14:08 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 14:08 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 14:08 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 14:08 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 14:08 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 14:08 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 14:08 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 14:08 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 14:08 | 1 |

## Client Sample ID: MW-27

**Lab Sample ID: 680-111248-13**

**Date Collected: 03/30/15 16:18**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 14:08 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 14:08 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 14:08 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 14:08 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 14:08 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 14:08 | 1 |
| **Chlorobenzene** | **3.0** | | 1.0 | 0.26 | ug/L | | | 04/09/15 14:08 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 14:08 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 14:08 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 14:08 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:08 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 14:08 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:08 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 14:08* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *70 - 130* | | *04/09/15 14:08* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *04/09/15 14:08* | *1* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | | *04/09/15 14:08* | *1* |

## Client Sample ID: MW-28

**Lab Sample ID: 680-111248-14**

**Date Collected: 03/31/15 10:20**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 14:30 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 14:30 | 1 |
| **Vinyl chloride** | **8.1** | | 1.0 | 0.50 | ug/L | | | 04/09/15 14:30 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:30 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:30 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 14:30 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 14:30 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 14:30 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 14:30 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:30 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 14:30 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 14:30 | 1 |
| **cis-1,2-Dichloroethene** | **33** | | 1.0 | 0.41 | ug/L | | | 04/09/15 14:30 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 14:30 | 1 |

**Client Sample ID: MW-28** — **Lab Sample ID: 680-111248-14**
**Date Collected: 03/31/15 10:20** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 14:30 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 14:30 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 14:30 | 1 |
| **Benzene** | **1.6** | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 14:30 | 1 |
| **Trichloroethene** | **1.1** | | 1.0 | 0.48 | ug/L | | | 04/09/15 14:30 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 14:30 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 14:30 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 14:30 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 14:30 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 14:30 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 14:30 | 1 |
| **Tetrachloroethene** | **5.8** | | 1.0 | 0.74 | ug/L | | | 04/09/15 14:30 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 14:30 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 14:30 | 1 |
| **Chlorobenzene** | **8.2** | | 1.0 | 0.26 | ug/L | | | 04/09/15 14:30 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 14:30 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 14:30 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 14:30 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:30 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:30 | 1 |
| **1,4-Dichlorobenzene** | **1.8** | | 1.0 | 0.46 | ug/L | | | 04/09/15 14:30 | 1 |
| **1,2-Dichlorobenzene** | **0.39** | **J** | 1.0 | 0.37 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 14:30 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:30 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *04/09/15 14:30* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *70 - 130* | | *04/09/15 14:30* | *1* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *04/09/15 14:30* | *1* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *70 - 130* | | *04/09/15 14:30* | *1* |

**Client Sample ID: MW-29** — **Lab Sample ID: 680-111248-15**
**Date Collected: 04/01/15 17:43** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <30 | | 50 | 30 | ug/L | | | 04/09/15 17:43 | 50 |
| Chloromethane | <20 | | 50 | 20 | ug/L | | | 04/09/15 17:43 | 50 |
| **Vinyl chloride** | **790** | | 50 | 25 | ug/L | | | 04/09/15 17:43 | 50 |
| Bromomethane | <130 | | 250 | 130 | ug/L | | | 04/09/15 17:43 | 50 |
| Chloroethane | <130 | | 250 | 130 | ug/L | | | 04/09/15 17:43 | 50 |
| Trichlorofluoromethane | <21 | | 50 | 21 | ug/L | | | 04/09/15 17:43 | 50 |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: MW-29**
**Date Collected: 04/01/15 17:43**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-15**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **1,1-Dichloroethene** | **18** | **J** | 50 | 18 | ug/L | | | 04/09/15 17:43 | 50 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <18 | | 50 | 18 | ug/L | | | 04/09/15 17:43 | 50 |
| Acetone | <350 | | 500 | 350 | ug/L | | | 04/09/15 17:43 | 50 |
| Carbon disulfide | <50 | | 100 | 50 | ug/L | | | 04/09/15 17:43 | 50 |
| Methyl acetate | <90 | | 250 | 90 | ug/L | | | 04/09/15 17:43 | 50 |
| Methylene Chloride | <130 | | 250 | 130 | ug/L | | | 04/09/15 17:43 | 50 |
| trans-1,2-Dichloroethene | <19 | | 50 | 19 | ug/L | | | 04/09/15 17:43 | 50 |
| Methyl tert-butyl ether | <15 | | 500 | 15 | ug/L | | | 04/09/15 17:43 | 50 |
| 1,1-Dichloroethane | <19 | | 50 | 19 | ug/L | | | 04/09/15 17:43 | 50 |
| **cis-1,2-Dichloroethene** | **5900** | | 50 | 21 | ug/L | | | 04/09/15 17:43 | 50 |
| 2-Butanone | <170 | | 500 | 170 | ug/L | | | 04/09/15 17:43 | 50 |
| Chloroform | <25 | | 50 | 25 | ug/L | | | 04/09/15 17:43 | 50 |
| 1,1,1-Trichloroethane | <19 | | 50 | 19 | ug/L | | | 04/09/15 17:43 | 50 |
| Cyclohexane | <20 | | 50 | 20 | ug/L | | | 04/09/15 17:43 | 50 |
| Carbon tetrachloride | <17 | | 50 | 17 | ug/L | | | 04/09/15 17:43 | 50 |
| Benzene | <22 | | 50 | 22 | ug/L | | | 04/09/15 17:43 | 50 |
| 1,2-Dichloroethane | <25 | | 50 | 25 | ug/L | | | 04/09/15 17:43 | 50 |
| **Trichloroethene** | **90** | | 50 | 24 | ug/L | | | 04/09/15 17:43 | 50 |
| Methylcyclohexane | <22 | | 50 | 22 | ug/L | | | 04/09/15 17:43 | 50 |
| 1,2-Dichloropropane | <34 | | 50 | 34 | ug/L | | | 04/09/15 17:43 | 50 |
| Bromodichloromethane | <22 | | 50 | 22 | ug/L | | | 04/09/15 17:43 | 50 |
| cis-1,3-Dichloropropene | <20 | | 50 | 20 | ug/L | | | 04/09/15 17:43 | 50 |
| 4-Methyl-2-pentanone | <110 | | 500 | 110 | ug/L | | | 04/09/15 17:43 | 50 |
| **Toluene** | **25** | **J** | 50 | 24 | ug/L | | | 04/09/15 17:43 | 50 |
| trans-1,3-Dichloropropene | <21 | | 50 | 21 | ug/L | | | 04/09/15 17:43 | 50 |
| 1,1,2-Trichloroethane | <17 | | 50 | 17 | ug/L | | | 04/09/15 17:43 | 50 |
| **Tetrachloroethene** | **160** | | 50 | 37 | ug/L | | | 04/09/15 17:43 | 50 |
| 2-Hexanone | <100 | | 500 | 100 | ug/L | | | 04/09/15 17:43 | 50 |
| Dibromochloromethane | <16 | | 50 | 16 | ug/L | | | 04/09/15 17:43 | 50 |
| 1,2-Dibromoethane | <22 | | 50 | 22 | ug/L | | | 04/09/15 17:43 | 50 |
| **Chlorobenzene** | **170** | | 50 | 13 | ug/L | | | 04/09/15 17:43 | 50 |
| **Ethylbenzene** | **3300** | | 50 | 17 | ug/L | | | 04/09/15 17:43 | 50 |
| **Xylenes, Total** | **7300** | | 50 | 12 | ug/L | | | 04/09/15 17:43 | 50 |
| Styrene | <14 | | 50 | 14 | ug/L | | | 04/09/15 17:43 | 50 |
| Bromoform | <22 | | 50 | 22 | ug/L | | | 04/09/15 17:43 | 50 |
| **Isopropylbenzene** | **100** | | 50 | 18 | ug/L | | | 04/09/15 17:43 | 50 |
| 1,1,2,2-Tetrachloroethane | <31 | | 50 | 31 | ug/L | | | 04/09/15 17:43 | 50 |
| **1,3-Dichlorobenzene** | **58** | | 50 | 22 | ug/L | | | 04/09/15 17:43 | 50 |
| **1,4-Dichlorobenzene** | **180** | | 50 | 23 | ug/L | | | 04/09/15 17:43 | 50 |
| **1,2-Dichlorobenzene** | **35** | **J** | 50 | 19 | ug/L | | | 04/09/15 17:43 | 50 |
| 1,2-Dibromo-3-Chloropropane | <55 | | 250 | 55 | ug/L | | | 04/09/15 17:43 | 50 |
| **1,2,4-Trichlorobenzene** | **160** | **J** | 250 | 130 | ug/L | | | 04/09/15 17:43 | 50 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* | | *04/09/15 17:43* | *50* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/09/15 17:43* | *50* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *04/09/15 17:43* | *50* |
| *4-Bromofluorobenzene (Surr)* | *91* | | *70 - 130* | | *04/09/15 17:43* | *50* |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: MW-30**
**Date Collected: 04/02/15 18:13**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-16**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 14:51 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 14:51 | 1 |
| **Vinyl chloride** | **0.88** | **J** | 1.0 | 0.50 | ug/L | | | 04/09/15 14:51 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:51 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:51 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 14:51 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 14:51 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 14:51 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 14:51 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:51 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 14:51 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 14:51 | 1 |
| **cis-1,2-Dichloroethene** | **1.7** | | 1.0 | 0.41 | ug/L | | | 04/09/15 14:51 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 14:51 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 14:51 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 14:51 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 14:51 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 14:51 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 14:51 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 14:51 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 14:51 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 14:51 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 14:51 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 14:51 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 14:51 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 14:51 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 14:51 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 14:51 | 1 |
| **Chlorobenzene** | **0.72** | **J** | 1.0 | 0.26 | ug/L | | | 04/09/15 14:51 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 14:51 | 1 |
| **Xylenes, Total** | **1.3** | | 1.0 | 0.23 | ug/L | | | 04/09/15 14:51 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 14:51 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:51 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 14:51 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 14:51 | 1 |

## Client Sample ID: MW-30

**Lab Sample ID: 680-111248-16**

**Date Collected: 04/02/15 18:13**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 14:51* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *91* | | *70 - 130* | | *04/09/15 14:51* | *1* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *04/09/15 14:51* | *1* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *70 - 130* | | *04/09/15 14:51* | *1* |

## Client Sample ID: MW-31

**Lab Sample ID: 680-111248-17**

**Date Collected: 03/30/15 15:35**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 15:13 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 15:13 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 15:13 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:13 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:13 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 15:13 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 15:13 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 15:13 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 15:13 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:13 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 15:13 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 15:13 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 15:13 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 15:13 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 15:13 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 15:13 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 15:13 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 15:13 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 15:13 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 15:13 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 15:13 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 15:13 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 15:13 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 15:13 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 15:13 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 15:13 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 15:13 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 15:13 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 15:13 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 15:13 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 15:13 | 1 |

## Client Sample ID: MW-31

**Lab Sample ID: 680-111248-17**

**Date Collected: 03/30/15 15:35**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 15:13 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 15:13 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 15:13 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:13 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 15:13* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/09/15 15:13* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *04/09/15 15:13* | *1* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | | *04/09/15 15:13* | *1* |

## Client Sample ID: MW-32

**Lab Sample ID: 680-111248-18**

**Date Collected: 03/31/15 17:50**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 16:38 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 16:38 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:38 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:38 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:38 | 1 |
| **Trichlorofluoromethane** | **0.73** | **J** | 1.0 | 0.42 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 16:38 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 16:38 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 16:38 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 16:38 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:38 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:38 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 16:38 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 16:38 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 16:38 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:38 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 16:38 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:38 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:38 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 16:38 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 16:38 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 16:38 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 16:38 | 1 |

## Client Sample ID: MW-32

**Lab Sample ID: 680-111248-18**

**Date Collected: 03/31/15 17:50**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 16:38 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 16:38 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:38 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 16:38 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 16:38 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 16:38 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 16:38 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:38 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 16:38 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 16:38 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:38 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 16:38 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:38 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *04/09/15 16:38* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* | | *04/09/15 16:38* | *1* |
| *Dibromofluoromethane (Surr)* | *106* | | *70 - 130* | | *04/09/15 16:38* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *04/09/15 16:38* | *1* |

## Client Sample ID: MW-33

**Lab Sample ID: 680-111248-19**

**Date Collected: 04/02/15 13:27**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 16:59 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 16:59 | 1 |
| **Vinyl chloride** | **100** | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:59 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:59 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:59 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 16:59 | 1 |
| **1,1-Dichloroethene** | **0.60** | **J** | 1.0 | 0.36 | ug/L | | | 04/09/15 16:59 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 16:59 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 16:59 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 16:59 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 16:59 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:59 | 1 |
| **trans-1,2-Dichloroethene** | **2.2** | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:59 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 16:59 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 16:59 | 1 |
| **cis-1,2-Dichloroethene** | **150** | | 1.0 | 0.41 | ug/L | | | 04/09/15 16:59 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 16:59 | 1 |

**Client Sample ID: MW-33** — **Lab Sample ID: 680-111248-19**
**Date Collected: 04/02/15 13:27** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:59 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:59 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 16:59 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:59 | 1 |
| **Benzene** | **1.7** | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:59 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:59 | 1 |
| **Trichloroethene** | **2.8** | | 1.0 | 0.48 | ug/L | | | 04/09/15 16:59 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:59 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 16:59 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 16:59 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 16:59 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 16:59 | 1 |
| **Toluene** | **1.7** | | 1.0 | 0.48 | ug/L | | | 04/09/15 16:59 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 16:59 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:59 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 16:59 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 16:59 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 16:59 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 16:59 | 1 |
| **Chlorobenzene** | **47** | | 1.0 | 0.26 | ug/L | | | 04/09/15 16:59 | 1 |
| **Ethylbenzene** | **3.1** | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:59 | 1 |
| **Xylenes, Total** | **11** | | 1.0 | 0.23 | ug/L | | | 04/09/15 16:59 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 16:59 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:59 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 16:59 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 16:59 | 1 |
| **1,3-Dichlorobenzene** | **22** | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:59 | 1 |
| **1,4-Dichlorobenzene** | **93** | | 1.0 | 0.46 | ug/L | | | 04/09/15 16:59 | 1 |
| **1,2-Dichlorobenzene** | **9.2** | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:59 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 16:59 | 1 |
| **1,2,4-Trichlorobenzene** | **36** | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:59 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *04/09/15 16:59* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 130* | | *04/09/15 16:59* | *1* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* | | *04/09/15 16:59* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *04/09/15 16:59* | *1* |

**Client Sample ID: MW-34** — **Lab Sample ID: 680-111248-20**
**Date Collected: 03/31/15 11:17** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 15:34 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 15:34 | 1 |
| **Vinyl chloride** | **2.6** | | 1.0 | 0.50 | ug/L | | | 04/09/15 15:34 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:34 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:34 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 15:34 | 1 |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: MW-34**
**Date Collected: 03/31/15 11:17**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-20**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 15:34 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 15:34 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 15:34 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 15:34 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:34 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 15:34 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 15:34 | 1 |
| **cis-1,2-Dichloroethene** | **9.9** | | 1.0 | 0.41 | ug/L | | | 04/09/15 15:34 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 15:34 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 15:34 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 15:34 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 15:34 | 1 |
| **Benzene** | **0.47** | **J** | 1.0 | 0.43 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 15:34 | 1 |
| **Trichloroethene** | **0.52** | **J** | 1.0 | 0.48 | ug/L | | | 04/09/15 15:34 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 15:34 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 15:34 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 15:34 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 15:34 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 15:34 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 15:34 | 1 |
| **Tetrachloroethene** | **2.7** | | 1.0 | 0.74 | ug/L | | | 04/09/15 15:34 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 15:34 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 15:34 | 1 |
| **Chlorobenzene** | **2.3** | | 1.0 | 0.26 | ug/L | | | 04/09/15 15:34 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 15:34 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 15:34 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 15:34 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 15:34 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 15:34 | 1 |
| **1,4-Dichlorobenzene** | **0.67** | **J** | 1.0 | 0.46 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 15:34 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 15:34* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *70 - 130* | | *04/09/15 15:34* | *1* |
| *Dibromofluoromethane (Surr)* | *97* | | *70 - 130* | | *04/09/15 15:34* | *1* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | | *04/09/15 15:34* | *1* |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: MW-35**
**Date Collected: 03/31/15 15:12**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-21**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 15:56 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 15:56 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 15:56 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:56 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:56 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 15:56 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 15:56 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 15:56 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 15:56 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:56 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 15:56 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 15:56 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 15:56 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 15:56 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 15:56 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 15:56 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 15:56 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 15:56 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 15:56 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 15:56 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 15:56 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 15:56 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 15:56 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 15:56 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 15:56 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 15:56 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 15:56 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 15:56 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 15:56 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 15:56 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 15:56 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 15:56 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 15:56 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 15:56 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 15:56 | 1 |

## Client Sample ID: MW-35

**Lab Sample ID: 680-111248-21**

**Date Collected: 03/31/15 15:12**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 15:56* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 130* | | *04/09/15 15:56* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *04/09/15 15:56* | *1* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *70 - 130* | | *04/09/15 15:56* | *1* |

## Client Sample ID: MW-36

**Lab Sample ID: 680-111248-22**

**Date Collected: 03/31/15 16:05**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 16:17 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 16:17 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:17 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:17 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:17 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 16:17 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 16:17 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 16:17 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 16:17 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:17 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:17 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 16:17 | 1 |
| **cis-1,2-Dichloroethene** | **0.59** | **J** | 1.0 | 0.41 | ug/L | | | 04/09/15 16:17 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 16:17 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:17 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 16:17 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:17 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:17 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 16:17 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 16:17 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 16:17 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 16:17 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 16:17 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 16:17 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:17 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 16:17 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 16:17 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 16:17 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 16:17 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:17 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 16:17 | 1 |

## Client Sample ID: MW-36

**Date Collected: 03/31/15 16:05**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-22**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 16:17 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:17 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 16:17 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:17 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 16:17* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 130* | | *04/09/15 16:17* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *04/09/15 16:17* | *1* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | | *04/09/15 16:17* | *1* |

## Client Sample ID: MW-37

**Date Collected: 03/31/15 12:05**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-23**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <1.2 | | 2.0 | 1.2 | ug/L | | | 04/09/15 13:48 | 2 |
| Chloromethane | <0.80 | | 2.0 | 0.80 | ug/L | | | 04/09/15 13:48 | 2 |
| **Vinyl chloride** | **65** | | 2.0 | 1.0 | ug/L | | | 04/09/15 13:48 | 2 |
| Bromomethane | <5.0 | | 10 | 5.0 | ug/L | | | 04/09/15 13:48 | 2 |
| Chloroethane | <5.0 | | 10 | 5.0 | ug/L | | | 04/09/15 13:48 | 2 |
| Trichlorofluoromethane | <0.84 | | 2.0 | 0.84 | ug/L | | | 04/09/15 13:48 | 2 |
| **1,1-Dichloroethene** | **1.8** | **J** | 2.0 | 0.72 | ug/L | | | 04/09/15 13:48 | 2 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.72 | | 2.0 | 0.72 | ug/L | | | 04/09/15 13:48 | 2 |
| Acetone | <14 | | 20 | 14 | ug/L | | | 04/09/15 13:48 | 2 |
| Carbon disulfide | <2.0 | | 4.0 | 2.0 | ug/L | | | 04/09/15 13:48 | 2 |
| Methyl acetate | <3.6 | | 10 | 3.6 | ug/L | | | 04/09/15 13:48 | 2 |
| Methylene Chloride | <5.0 | | 10 | 5.0 | ug/L | | | 04/09/15 13:48 | 2 |
| **trans-1,2-Dichloroethene** | **1.0** | **J** | 2.0 | 0.74 | ug/L | | | 04/09/15 13:48 | 2 |
| Methyl tert-butyl ether | <0.60 | | 20 | 0.60 | ug/L | | | 04/09/15 13:48 | 2 |
| 1,1-Dichloroethane | <0.76 | | 2.0 | 0.76 | ug/L | | | 04/09/15 13:48 | 2 |
| **cis-1,2-Dichloroethene** | **350** | | 2.0 | 0.82 | ug/L | | | 04/09/15 13:48 | 2 |
| 2-Butanone | <6.8 | | 20 | 6.8 | ug/L | | | 04/09/15 13:48 | 2 |
| Chloroform | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 13:48 | 2 |
| 1,1,1-Trichloroethane | <0.74 | | 2.0 | 0.74 | ug/L | | | 04/09/15 13:48 | 2 |
| Cyclohexane | <0.78 | | 2.0 | 0.78 | ug/L | | | 04/09/15 13:48 | 2 |
| Carbon tetrachloride | <0.66 | | 2.0 | 0.66 | ug/L | | | 04/09/15 13:48 | 2 |
| **Benzene** | **6.4** | | 2.0 | 0.86 | ug/L | | | 04/09/15 13:48 | 2 |
| 1,2-Dichloroethane | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 13:48 | 2 |
| **Trichloroethene** | **8.5** | | 2.0 | 0.96 | ug/L | | | 04/09/15 13:48 | 2 |
| Methylcyclohexane | <0.86 | | 2.0 | 0.86 | ug/L | | | 04/09/15 13:48 | 2 |
| 1,2-Dichloropropane | <1.3 | | 2.0 | 1.3 | ug/L | | | 04/09/15 13:48 | 2 |
| Bromodichloromethane | <0.88 | | 2.0 | 0.88 | ug/L | | | 04/09/15 13:48 | 2 |
| cis-1,3-Dichloropropene | <0.80 | | 2.0 | 0.80 | ug/L | | | 04/09/15 13:48 | 2 |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

## Client Sample ID: MW-37

**Lab Sample ID: 680-111248-23**

**Date Collected: 03/31/15 12:05**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <4.2 | | 20 | 4.2 | ug/L | | | 04/09/15 13:48 | 2 |
| Toluene | <0.96 | | 2.0 | 0.96 | ug/L | | | 04/09/15 13:48 | 2 |
| trans-1,3-Dichloropropene | <0.84 | | 2.0 | 0.84 | ug/L | | | 04/09/15 13:48 | 2 |
| 1,1,2-Trichloroethane | <0.66 | | 2.0 | 0.66 | ug/L | | | 04/09/15 13:48 | 2 |
| **Tetrachloroethene** | **19** | | 2.0 | 1.5 | ug/L | | | 04/09/15 13:48 | 2 |
| 2-Hexanone | <4.0 | | 20 | 4.0 | ug/L | | | 04/09/15 13:48 | 2 |
| Dibromochloromethane | <0.64 | | 2.0 | 0.64 | ug/L | | | 04/09/15 13:48 | 2 |
| 1,2-Dibromoethane | <0.88 | | 2.0 | 0.88 | ug/L | | | 04/09/15 13:48 | 2 |
| **Chlorobenzene** | **68** | | 2.0 | 0.52 | ug/L | | | 04/09/15 13:48 | 2 |
| Ethylbenzene | <0.66 | | 2.0 | 0.66 | ug/L | | | 04/09/15 13:48 | 2 |
| **Xylenes, Total** | **0.77** | **J** | 2.0 | 0.46 | ug/L | | | 04/09/15 13:48 | 2 |
| Styrene | <0.54 | | 2.0 | 0.54 | ug/L | | | 04/09/15 13:48 | 2 |
| Bromoform | <0.86 | | 2.0 | 0.86 | ug/L | | | 04/09/15 13:48 | 2 |
| **Isopropylbenzene** | **1.1** | **J** | 2.0 | 0.70 | ug/L | | | 04/09/15 13:48 | 2 |
| 1,1,2,2-Tetrachloroethane | <1.2 | | 2.0 | 1.2 | ug/L | | | 04/09/15 13:48 | 2 |
| **1,3-Dichlorobenzene** | **7.4** | | 2.0 | 0.86 | ug/L | | | 04/09/15 13:48 | 2 |
| **1,4-Dichlorobenzene** | **46** | | 2.0 | 0.92 | ug/L | | | 04/09/15 13:48 | 2 |
| **1,2-Dichlorobenzene** | **13** | | 2.0 | 0.74 | ug/L | | | 04/09/15 13:48 | 2 |
| 1,2-Dibromo-3-Chloropropane | <2.2 | | 10 | 2.2 | ug/L | | | 04/09/15 13:48 | 2 |
| **1,2,4-Trichlorobenzene** | **56** | | 10 | 5.0 | ug/L | | | 04/09/15 13:48 | 2 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *04/09/15 13:48* | *2* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* | | *04/09/15 13:48* | *2* |
| *Dibromofluoromethane (Surr)* | *101* | | *70 - 130* | | *04/09/15 13:48* | *2* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *70 - 130* | | *04/09/15 13:48* | *2* |

## Client Sample ID: PAN-MW-9

**Lab Sample ID: 680-111248-24**

**Date Collected: 04/01/15 18:58**

**Matrix: Water**

**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <6.0 | | 10 | 6.0 | ug/L | | | 04/09/15 13:25 | 10 |
| Chloromethane | <4.0 | | 10 | 4.0 | ug/L | | | 04/09/15 13:25 | 10 |
| **Vinyl chloride** | **130** | | 10 | 5.0 | ug/L | | | 04/09/15 13:25 | 10 |
| Bromomethane | <25 | | 50 | 25 | ug/L | | | 04/09/15 13:25 | 10 |
| Chloroethane | <25 | | 50 | 25 | ug/L | | | 04/09/15 13:25 | 10 |
| Trichlorofluoromethane | <4.2 | | 10 | 4.2 | ug/L | | | 04/09/15 13:25 | 10 |
| **1,1-Dichloroethene** | **6.7** | **J** | 10 | 3.6 | ug/L | | | 04/09/15 13:25 | 10 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <3.6 | | 10 | 3.6 | ug/L | | | 04/09/15 13:25 | 10 |
| Acetone | <70 | | 100 | 70 | ug/L | | | 04/09/15 13:25 | 10 |
| Carbon disulfide | <10 | | 20 | 10 | ug/L | | | 04/09/15 13:25 | 10 |
| Methyl acetate | <18 | | 50 | 18 | ug/L | | | 04/09/15 13:25 | 10 |
| Methylene Chloride | <25 | | 50 | 25 | ug/L | | | 04/09/15 13:25 | 10 |
| trans-1,2-Dichloroethene | <3.7 | | 10 | 3.7 | ug/L | | | 04/09/15 13:25 | 10 |
| Methyl tert-butyl ether | <3.0 | | 100 | 3.0 | ug/L | | | 04/09/15 13:25 | 10 |
| 1,1-Dichloroethane | <3.8 | | 10 | 3.8 | ug/L | | | 04/09/15 13:25 | 10 |
| **cis-1,2-Dichloroethene** | **2000** | | 10 | 4.1 | ug/L | | | 04/09/15 13:25 | 10 |
| 2-Butanone | <34 | | 100 | 34 | ug/L | | | 04/09/15 13:25 | 10 |

**Client Sample ID: PAN-MW-9** — **Lab Sample ID: 680-111248-24**
**Date Collected: 04/01/15 18:58** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <5.0 | | 10 | 5.0 | ug/L | | | 04/09/15 13:25 | 10 |
| 1,1,1-Trichloroethane | <3.7 | | 10 | 3.7 | ug/L | | | 04/09/15 13:25 | 10 |
| Cyclohexane | <3.9 | | 10 | 3.9 | ug/L | | | 04/09/15 13:25 | 10 |
| Carbon tetrachloride | <3.3 | | 10 | 3.3 | ug/L | | | 04/09/15 13:25 | 10 |
| **Benzene** | **5.2** | **J** | 10 | 4.3 | ug/L | | | 04/09/15 13:25 | 10 |
| 1,2-Dichloroethane | <5.0 | | 10 | 5.0 | ug/L | | | 04/09/15 13:25 | 10 |
| **Trichloroethene** | **4.9** | **J** | 10 | 4.8 | ug/L | | | 04/09/15 13:25 | 10 |
| Methylcyclohexane | <4.3 | | 10 | 4.3 | ug/L | | | 04/09/15 13:25 | 10 |
| 1,2-Dichloropropane | <6.7 | | 10 | 6.7 | ug/L | | | 04/09/15 13:25 | 10 |
| Bromodichloromethane | <4.4 | | 10 | 4.4 | ug/L | | | 04/09/15 13:25 | 10 |
| cis-1,3-Dichloropropene | <4.0 | | 10 | 4.0 | ug/L | | | 04/09/15 13:25 | 10 |
| 4-Methyl-2-pentanone | <21 | | 100 | 21 | ug/L | | | 04/09/15 13:25 | 10 |
| Toluene | <4.8 | | 10 | 4.8 | ug/L | | | 04/09/15 13:25 | 10 |
| trans-1,3-Dichloropropene | <4.2 | | 10 | 4.2 | ug/L | | | 04/09/15 13:25 | 10 |
| 1,1,2-Trichloroethane | <3.3 | | 10 | 3.3 | ug/L | | | 04/09/15 13:25 | 10 |
| Tetrachloroethene | <7.4 | | 10 | 7.4 | ug/L | | | 04/09/15 13:25 | 10 |
| 2-Hexanone | <20 | | 100 | 20 | ug/L | | | 04/09/15 13:25 | 10 |
| Dibromochloromethane | <3.2 | | 10 | 3.2 | ug/L | | | 04/09/15 13:25 | 10 |
| 1,2-Dibromoethane | <4.4 | | 10 | 4.4 | ug/L | | | 04/09/15 13:25 | 10 |
| **Chlorobenzene** | **33** | | 10 | 2.6 | ug/L | | | 04/09/15 13:25 | 10 |
| **Ethylbenzene** | **580** | | 10 | 3.3 | ug/L | | | 04/09/15 13:25 | 10 |
| **Xylenes, Total** | **1400** | | 10 | 2.3 | ug/L | | | 04/09/15 13:25 | 10 |
| Styrene | <2.7 | | 10 | 2.7 | ug/L | | | 04/09/15 13:25 | 10 |
| Bromoform | <4.3 | | 10 | 4.3 | ug/L | | | 04/09/15 13:25 | 10 |
| **Isopropylbenzene** | **32** | | 10 | 3.5 | ug/L | | | 04/09/15 13:25 | 10 |
| 1,1,2,2-Tetrachloroethane | <6.2 | | 10 | 6.2 | ug/L | | | 04/09/15 13:25 | 10 |
| **1,3-Dichlorobenzene** | **8.5** | **J** | 10 | 4.3 | ug/L | | | 04/09/15 13:25 | 10 |
| **1,4-Dichlorobenzene** | **28** | | 10 | 4.6 | ug/L | | | 04/09/15 13:25 | 10 |
| **1,2-Dichlorobenzene** | **5.3** | **J** | 10 | 3.7 | ug/L | | | 04/09/15 13:25 | 10 |
| 1,2-Dibromo-3-Chloropropane | <11 | | 50 | 11 | ug/L | | | 04/09/15 13:25 | 10 |
| 1,2,4-Trichlorobenzene | <25 | | 50 | 25 | ug/L | | | 04/09/15 13:25 | 10 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *04/09/15 13:25* | *10* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* | | *04/09/15 13:25* | *10* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* | | *04/09/15 13:25* | *10* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | | *04/09/15 13:25* | *10* |

**Client Sample ID: PAN-MW-10** — **Lab Sample ID: 680-111248-25**
**Date Collected: 04/01/15 09:20** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 16:39 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 16:39 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:39 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:39 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:39 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 16:39 | 1 |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: PAN-MW-10**
**Date Collected: 04/01/15 09:20**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-25**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 16:39 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 16:39 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 16:39 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 16:39 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:39 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:39 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 16:39 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 16:39 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 16:39 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:39 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 16:39 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:39 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 16:39 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 16:39 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 16:39 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 16:39 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 16:39 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 16:39 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 16:39 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:39 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 16:39 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 16:39 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 16:39 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 16:39 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 16:39 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 16:39 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 16:39 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:39 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 16:39 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 16:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* | | *04/09/15 16:39* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *70 - 130* | | *04/09/15 16:39* | *1* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *04/09/15 16:39* | *1* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *70 - 130* | | *04/09/15 16:39* | *1* |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: Trip Blank**
**Date Collected: 03/30/15 00:00**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-26**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 11:16 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 11:16 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 11:16 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:16 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:16 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 11:16 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 11:16 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 11:16 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 11:16 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:16 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 11:16 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 11:16 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 11:16 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 11:16 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 11:16 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 11:16 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 11:16 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 11:16 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 11:16 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 11:16 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 11:16 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 11:16 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 11:16 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 11:16 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 11:16 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 11:16 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 11:16 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 11:16 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 11:16 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 11:16 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 11:16 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 11:16 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:16 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 11:16 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:16 | 1 |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

**Client Sample ID: Trip Blank**
**Date Collected: 03/30/15 00:00**
**Date Received: 04/03/15 08:30**

**Lab Sample ID: 680-111248-26**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 100 | | 70 - 130 | | 04/09/15 11:16 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 92 | | 70 - 130 | | 04/09/15 11:16 | 1 |
| Dibromofluoromethane (Surr) | 98 | | 70 - 130 | | 04/09/15 11:16 | 1 |
| 4-Bromofluorobenzene (Surr) | 93 | | 70 - 130 | | 04/09/15 11:16 | 1 |

# Surrogate Summary

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Water**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | TOL | 12DCE | DBFM | BFB |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | (70-130) | (70-130) |
| 680-111248-1 | IW-1R | 101 | 93 | 98 | 92 |
| 680-111248-2 | IW-18 | 103 | 93 | 106 | 99 |
| 680-111248-3 | LAW-PZ-8R | 101 | 93 | 98 | 92 |
| 680-111248-4 | MW-14 | 102 | 91 | 98 | 94 |
| 680-111248-5 | MW-16 | 103 | 95 | 106 | 96 |
| 680-111248-6 | MW-17R | 101 | 91 | 99 | 95 |
| 680-111248-7 | MW-18R | 101 | 93 | 98 | 92 |
| 680-111248-8 | MW-19 | 101 | 91 | 99 | 95 |
| 680-111248-9 | MW-23 | 101 | 93 | 99 | 93 |
| 680-111248-10 | MW-24R | 105 | 93 | 105 | 98 |
| 680-111248-11 | MW-25 | 100 | 93 | 100 | 93 |
| 680-111248-12 | MW-26R | 105 | 93 | 106 | 96 |
| 680-111248-13 | MW-27 | 101 | 92 | 99 | 93 |
| 680-111248-14 | MW-28 | 102 | 92 | 98 | 92 |
| 680-111248-15 | MW-29 | 100 | 93 | 99 | 91 |
| 680-111248-16 | MW-30 | 101 | 91 | 98 | 95 |
| 680-111248-17 | MW-31 | 101 | 93 | 99 | 93 |
| 680-111248-18 | MW-32 | 105 | 96 | 106 | 100 |
| 680-111248-19 | MW-33 | 103 | 94 | 104 | 99 |
| 680-111248-20 | MW-34 | 101 | 92 | 97 | 93 |
| 680-111248-21 | MW-35 | 101 | 94 | 99 | 92 |
| 680-111248-22 | MW-36 | 101 | 94 | 99 | 93 |
| 680-111248-23 | MW-37 | 102 | 96 | 101 | 94 |
| 680-111248-24 | PAN-MW-9 | 103 | 96 | 104 | 93 |
| 680-111248-25 | PAN-MW-10 | 100 | 92 | 98 | 92 |
| 680-111248-26 | Trip Blank | 100 | 92 | 98 | 93 |
| LCS 680-378017/4 | Lab Control Sample | 95 | 98 | 102 | 94 |
| LCS 680-378019/4 | Lab Control Sample | 104 | 96 | 104 | 97 |
| LCS 680-378022/4 | Lab Control Sample | 98 | 95 | 99 | 97 |
| LCS 680-378174/4 | Lab Control Sample | 103 | 99 | 105 | 97 |
| LCSD 680-378017/5 | Lab Control Sample Dup | 95 | 100 | 103 | 95 |
| LCSD 680-378019/5 | Lab Control Sample Dup | 107 | 96 | 108 | 98 |
| LCSD 680-378022/5 | Lab Control Sample Dup | 100 | 94 | 100 | 97 |
| LCSD 680-378174/5 | Lab Control Sample Dup | 107 | 94 | 104 | 98 |
| MB 680-378017/9 | Method Blank | 103 | 97 | 104 | 95 |
| MB 680-378019/9 | Method Blank | 106 | 97 | 106 | 100 |
| MB 680-378022/9 | Method Blank | 101 | 93 | 99 | 94 |
| MB 680-378174/9 | Method Blank | 106 | 94 | 106 | 98 |

**Surrogate Legend**

TOL = Toluene-d8 (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 680-378017/9**
**Matrix: Water**
**Analysis Batch: 378017**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 11:09 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 11:09 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 11:09 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:09 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:09 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 11:09 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 11:09 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 11:09 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 11:09 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:09 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 11:09 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 11:09 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 11:09 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 11:09 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 11:09 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 11:09 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 11:09 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 11:09 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 11:09 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 11:09 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 11:09 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 11:09 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 11:09 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 11:09 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 11:09 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 11:09 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 11:09 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 11:09 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 11:09 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 11:09 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 11:09 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 11:09 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:09 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 11:09 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 11:09 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-378017/9**
**Matrix: Water**
**Analysis Batch: 378017**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *04/09/15 11:09* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *70 - 130* | | *04/09/15 11:09* | *1* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* | | *04/09/15 11:09* | *1* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *70 - 130* | | *04/09/15 11:09* | *1* |

**Lab Sample ID: LCS 680-378017/4**
**Matrix: Water**
**Analysis Batch: 378017**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 45.9 | | ug/L | | 92 | 51 - 140 |
| Chloromethane | 50.0 | 45.0 | | ug/L | | 90 | 63 - 126 |
| Vinyl chloride | 50.0 | 40.3 | | ug/L | | 81 | 68 - 132 |
| Bromomethane | 50.0 | 44.2 | | ug/L | | 88 | 20 - 180 |
| Chloroethane | 50.0 | 40.6 | | ug/L | | 81 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 48.0 | | ug/L | | 96 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 42.4 | | ug/L | | 85 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 50.0 | 47.0 | | ug/L | | 94 | 65 - 131 |
| Acetone | 250 | 223 | | ug/L | | 89 | 60 - 154 |
| Carbon disulfide | 50.0 | 41.6 | | ug/L | | 83 | 73 - 127 |
| Methyl acetate | 250 | 276 | | ug/L | | 111 | 66 - 134 |
| Methylene Chloride | 50.0 | 46.4 | | ug/L | | 93 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 46.5 | | ug/L | | 93 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 47.4 | | ug/L | | 95 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 46.1 | | ug/L | | 92 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 49.2 | | ug/L | | 98 | 80 - 122 |
| 2-Butanone | 250 | 269 | | ug/L | | 107 | 75 - 133 |
| Chloroform | 50.0 | 48.7 | | ug/L | | 97 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 45.3 | | ug/L | | 91 | 74 - 128 |
| Cyclohexane | 50.0 | 43.5 | | ug/L | | 87 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 44.8 | | ug/L | | 90 | 75 - 130 |
| Benzene | 50.0 | 47.2 | | ug/L | | 94 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 48.4 | | ug/L | | 97 | 75 - 130 |
| Trichloroethene | 50.0 | 46.7 | | ug/L | | 93 | 80 - 123 |
| Methylcyclohexane | 50.0 | 43.9 | | ug/L | | 88 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 50.5 | | ug/L | | 101 | 80 - 123 |
| Bromodichloromethane | 50.0 | 49.2 | | ug/L | | 98 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 51.0 | | ug/L | | 102 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 252 | | ug/L | | 101 | 75 - 135 |
| Toluene | 50.0 | 44.9 | | ug/L | | 90 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 53.2 | | ug/L | | 106 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 50.3 | | ug/L | | 101 | 79 - 125 |
| Tetrachloroethene | 50.0 | 46.8 | | ug/L | | 94 | 77 - 123 |
| 2-Hexanone | 250 | 235 | | ug/L | | 94 | 70 - 141 |
| Dibromochloromethane | 50.0 | 52.2 | | ug/L | | 104 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 50.7 | | ug/L | | 101 | 77 - 131 |
| Chlorobenzene | 50.0 | 49.6 | | ug/L | | 99 | 80 - 120 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-378017/4**
**Matrix: Water**
**Analysis Batch: 378017**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | | | 50.0 | 48.2 | | ug/L | | 96 | 80 - 120 | | |
| Xylenes, Total | | | 100 | 94.0 | | ug/L | | 94 | 80 - 120 | | |
| Styrene | | | 50.0 | 47.3 | | ug/L | | 95 | 80 - 122 | | |
| Bromoform | | | 50.0 | 55.1 | | ug/L | | 110 | 69 - 135 | | |
| Isopropylbenzene | | | 50.0 | 48.3 | | ug/L | | 97 | 80 - 120 | | |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 55.0 | | ug/L | | 110 | 72 - 128 | | |
| 1,3-Dichlorobenzene | | | 50.0 | 47.4 | | ug/L | | 95 | 80 - 120 | | |
| 1,4-Dichlorobenzene | | | 50.0 | 47.8 | | ug/L | | 96 | 80 - 120 | | |
| 1,2-Dichlorobenzene | | | 50.0 | 48.4 | | ug/L | | 97 | 80 - 120 | | |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 51.4 | | ug/L | | 103 | 59 - 141 | | |
| 1,2,4-Trichlorobenzene | | | 50.0 | 47.7 | | ug/L | | 95 | 77 - 131 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *95* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *102* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *70 - 130* |

**Lab Sample ID: LCSD 680-378017/5**
**Matrix: Water**
**Analysis Batch: 378017**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | | | 50.0 | 45.1 | | ug/L | | 90 | 51 - 140 | 2 | 40 |
| Chloromethane | | | 50.0 | 45.4 | | ug/L | | 91 | 63 - 126 | 1 | 30 |
| Vinyl chloride | | | 50.0 | 40.0 | | ug/L | | 80 | 68 - 132 | 1 | 30 |
| Bromomethane | | | 50.0 | 43.4 | | ug/L | | 87 | 20 - 180 | 2 | 40 |
| Chloroethane | | | 50.0 | 39.8 | | ug/L | | 80 | 50 - 151 | 2 | 30 |
| Trichlorofluoromethane | | | 50.0 | 47.5 | | ug/L | | 95 | 58 - 145 | 1 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 41.8 | | ug/L | | 84 | 74 - 125 | 2 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 46.4 | | ug/L | | 93 | 65 - 131 | 1 | 30 |
| Acetone | | | 250 | 231 | | ug/L | | 92 | 60 - 154 | 4 | 40 |
| Carbon disulfide | | | 50.0 | 41.6 | | ug/L | | 83 | 73 - 127 | 0 | 20 |
| Methyl acetate | | | 250 | 287 | | ug/L | | 115 | 66 - 134 | 4 | 30 |
| Methylene Chloride | | | 50.0 | 46.9 | | ug/L | | 94 | 76 - 129 | 1 | 20 |
| trans-1,2-Dichloroethene | | | 50.0 | 46.6 | | ug/L | | 93 | 78 - 123 | 0 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 48.0 | | ug/L | | 96 | 74 - 135 | 1 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 45.8 | | ug/L | | 92 | 80 - 120 | 1 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 48.8 | | ug/L | | 98 | 80 - 122 | 1 | 20 |
| 2-Butanone | | | 250 | 271 | | ug/L | | 108 | 75 - 133 | 1 | 30 |
| Chloroform | | | 50.0 | 47.6 | | ug/L | | 95 | 79 - 122 | 2 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 45.1 | | ug/L | | 90 | 74 - 128 | 0 | 20 |
| Cyclohexane | | | 50.0 | 43.4 | | ug/L | | 87 | 69 - 130 | 0 | 30 |
| Carbon tetrachloride | | | 50.0 | 44.1 | | ug/L | | 88 | 75 - 130 | 2 | 20 |
| Benzene | | | 50.0 | 47.5 | | ug/L | | 95 | 73 - 131 | 1 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 49.4 | | ug/L | | 99 | 75 - 130 | 2 | 20 |
| Trichloroethene | | | 50.0 | 46.2 | | ug/L | | 92 | 80 - 123 | 1 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-378017/5**
**Matrix: Water**
**Analysis Batch: 378017**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Methylcyclohexane | 50.0 | 43.6 | | ug/L | | 87 | 75 - 127 | 1 | 30 |
| 1,2-Dichloropropane | 50.0 | 51.4 | | ug/L | | 103 | 80 - 123 | 2 | 20 |
| Bromodichloromethane | 50.0 | 49.8 | | ug/L | | 100 | 77 - 129 | 1 | 20 |
| cis-1,3-Dichloropropene | 50.0 | 51.7 | | ug/L | | 103 | 80 - 133 | 1 | 20 |
| 4-Methyl-2-pentanone | 250 | 259 | | ug/L | | 104 | 75 - 135 | 3 | 30 |
| Toluene | 50.0 | 45.3 | | ug/L | | 91 | 80 - 122 | 1 | 20 |
| trans-1,3-Dichloropropene | 50.0 | 53.7 | | ug/L | | 107 | 74 - 140 | 1 | 20 |
| 1,1,2-Trichloroethane | 50.0 | 51.1 | | ug/L | | 102 | 79 - 125 | 2 | 20 |
| Tetrachloroethene | 50.0 | 46.4 | | ug/L | | 93 | 77 - 123 | 1 | 20 |
| 2-Hexanone | 250 | 240 | | ug/L | | 96 | 70 - 141 | 2 | 40 |
| Dibromochloromethane | 50.0 | 52.5 | | ug/L | | 105 | 71 - 136 | 1 | 20 |
| 1,2-Dibromoethane | 50.0 | 52.1 | | ug/L | | 104 | 77 - 131 | 3 | 30 |
| Chlorobenzene | 50.0 | 49.3 | | ug/L | | 99 | 80 - 120 | 1 | 20 |
| Ethylbenzene | 50.0 | 47.5 | | ug/L | | 95 | 80 - 120 | 1 | 20 |
| Xylenes, Total | 100 | 93.4 | | ug/L | | 93 | 80 - 120 | 1 | 20 |
| Styrene | 50.0 | 47.2 | | ug/L | | 94 | 80 - 122 | 0 | 20 |
| Bromoform | 50.0 | 55.5 | | ug/L | | 111 | 69 - 135 | 1 | 20 |
| Isopropylbenzene | 50.0 | 48.2 | | ug/L | | 96 | 80 - 120 | 0 | 20 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 55.7 | | ug/L | | 111 | 72 - 128 | 1 | 20 |
| 1,3-Dichlorobenzene | 50.0 | 48.3 | | ug/L | | 97 | 80 - 120 | 2 | 20 |
| 1,4-Dichlorobenzene | 50.0 | 48.1 | | ug/L | | 96 | 80 - 120 | 0 | 20 |
| 1,2-Dichlorobenzene | 50.0 | 48.8 | | ug/L | | 98 | 80 - 120 | 1 | 20 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 52.9 | | ug/L | | 106 | 59 - 141 | 3 | 30 |
| 1,2,4-Trichlorobenzene | 50.0 | 48.6 | | ug/L | | 97 | 77 - 131 | 2 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *95* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *70 - 130* |

**Lab Sample ID: MB 680-378019/9**
**Matrix: Water**
**Analysis Batch: 378019**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 10:42 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 10:42 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 10:42 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 10:42 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 10:42 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 10:42 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 10:42 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 10:42 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 10:42 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 10:42 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-378019/9**
**Matrix: Water**
**Analysis Batch: 378019**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 10:42 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 10:42 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 10:42 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 10:42 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 10:42 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 10:42 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 10:42 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 10:42 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 10:42 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 10:42 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 10:42 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 10:42 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 10:42 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 10:42 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 10:42 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 10:42 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 10:42 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 10:42 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 10:42 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 10:42 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 10:42 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 10:42 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 10:42 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 10:42 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 10:42 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *106* | | *70 - 130* | | *04/09/15 10:42* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *70 - 130* | | *04/09/15 10:42* | *1* |
| *Dibromofluoromethane (Surr)* | *106* | | *70 - 130* | | *04/09/15 10:42* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *04/09/15 10:42* | *1* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-378019/4**
**Matrix: Water**
**Analysis Batch: 378019**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 49.1 | | ug/L | | 98 | 51 - 140 |
| Chloromethane | 50.0 | 47.3 | | ug/L | | 95 | 63 - 126 |
| Vinyl chloride | 50.0 | 58.4 | | ug/L | | 117 | 68 - 132 |
| Bromomethane | 50.0 | 48.2 | | ug/L | | 96 | 20 - 180 |
| Chloroethane | 50.0 | 53.1 | | ug/L | | 106 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 51.9 | | ug/L | | 104 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 53.2 | | ug/L | | 106 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 55.6 | | ug/L | | 111 | 65 - 131 |
| Acetone | 250 | 249 | | ug/L | | 99 | 60 - 154 |
| Carbon disulfide | 50.0 | 52.8 | | ug/L | | 106 | 73 - 127 |
| Methyl acetate | 250 | 251 | | ug/L | | 100 | 66 - 134 |
| Methylene Chloride | 50.0 | 53.7 | | ug/L | | 107 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 51.6 | | ug/L | | 103 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 50.7 | | ug/L | | 101 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 53.3 | | ug/L | | 107 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 50.9 | | ug/L | | 102 | 80 - 122 |
| 2-Butanone | 250 | 240 | | ug/L | | 96 | 75 - 133 |
| Chloroform | 50.0 | 52.0 | | ug/L | | 104 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 52.1 | | ug/L | | 104 | 74 - 128 |
| Cyclohexane | 50.0 | 52.7 | | ug/L | | 105 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 52.8 | | ug/L | | 106 | 75 - 130 |
| Benzene | 50.0 | 51.4 | | ug/L | | 103 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 49.5 | | ug/L | | 99 | 75 - 130 |
| Trichloroethene | 50.0 | 50.4 | | ug/L | | 101 | 80 - 123 |
| Methylcyclohexane | 50.0 | 55.0 | | ug/L | | 110 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 51.5 | | ug/L | | 103 | 80 - 123 |
| Bromodichloromethane | 50.0 | 51.0 | | ug/L | | 102 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 53.0 | | ug/L | | 106 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 247 | | ug/L | | 99 | 75 - 135 |
| Toluene | 50.0 | 50.7 | | ug/L | | 101 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 52.3 | | ug/L | | 105 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 52.5 | | ug/L | | 105 | 79 - 125 |
| Tetrachloroethene | 50.0 | 52.2 | | ug/L | | 104 | 77 - 123 |
| 2-Hexanone | 250 | 248 | | ug/L | | 99 | 70 - 141 |
| Dibromochloromethane | 50.0 | 52.3 | | ug/L | | 105 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 49.7 | | ug/L | | 99 | 77 - 131 |
| Chlorobenzene | 50.0 | 51.4 | | ug/L | | 103 | 80 - 120 |
| Ethylbenzene | 50.0 | 52.1 | | ug/L | | 104 | 80 - 120 |
| Xylenes, Total | 100 | 103 | | ug/L | | 103 | 80 - 120 |
| Styrene | 50.0 | 52.4 | | ug/L | | 105 | 80 - 122 |
| Bromoform | 50.0 | 54.1 | | ug/L | | 108 | 69 - 135 |
| Isopropylbenzene | 50.0 | 52.8 | | ug/L | | 106 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 50.0 | | ug/L | | 100 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 50.6 | | ug/L | | 101 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 50.3 | | ug/L | | 101 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 49.1 | | ug/L | | 98 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 49.6 | | ug/L | | 99 | 59 - 141 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-378019/4**
**Matrix: Water**
**Analysis Batch: 378019**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | | | 50.0 | 52.1 | | ug/L | | 104 | 77 - 131 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *104* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |

**Lab Sample ID: LCSD 680-378019/5**
**Matrix: Water**
**Analysis Batch: 378019**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | | | 50.0 | 54.3 | | ug/L | | 109 | 51 - 140 | 10 | 40 |
| Chloromethane | | | 50.0 | 51.2 | | ug/L | | 102 | 63 - 126 | 8 | 30 |
| Vinyl chloride | | | 50.0 | 60.1 | | ug/L | | 120 | 68 - 132 | 3 | 30 |
| Bromomethane | | | 50.0 | 55.6 | | ug/L | | 111 | 20 - 180 | 14 | 40 |
| Chloroethane | | | 50.0 | 51.0 | | ug/L | | 102 | 50 - 151 | 4 | 30 |
| Trichlorofluoromethane | | | 50.0 | 53.4 | | ug/L | | 107 | 58 - 145 | 3 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 55.0 | | ug/L | | 110 | 74 - 125 | 3 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 55.6 | | ug/L | | 111 | 65 - 131 | 0 | 30 |
| Acetone | | | 250 | 216 | | ug/L | | 86 | 60 - 154 | 14 | 40 |
| Carbon disulfide | | | 50.0 | 53.2 | | ug/L | | 106 | 73 - 127 | 1 | 20 |
| Methyl acetate | | | 250 | 264 | | ug/L | | 106 | 66 - 134 | 5 | 30 |
| Methylene Chloride | | | 50.0 | 53.9 | | ug/L | | 108 | 76 - 129 | 0 | 20 |
| trans-1,2-Dichloroethene | | | 50.0 | 51.9 | | ug/L | | 104 | 78 - 123 | 1 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 50.2 | | ug/L | | 100 | 74 - 135 | 1 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 52.8 | | ug/L | | 106 | 80 - 120 | 1 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 51.2 | | ug/L | | 102 | 80 - 122 | 1 | 20 |
| 2-Butanone | | | 250 | 227 | | ug/L | | 91 | 75 - 133 | 6 | 30 |
| Chloroform | | | 50.0 | 53.2 | | ug/L | | 106 | 79 - 122 | 2 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 52.2 | | ug/L | | 104 | 74 - 128 | 0 | 20 |
| Cyclohexane | | | 50.0 | 53.1 | | ug/L | | 106 | 69 - 130 | 1 | 30 |
| Carbon tetrachloride | | | 50.0 | 52.5 | | ug/L | | 105 | 75 - 130 | 1 | 20 |
| Benzene | | | 50.0 | 51.6 | | ug/L | | 103 | 73 - 131 | 0 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 49.6 | | ug/L | | 99 | 75 - 130 | 0 | 20 |
| Trichloroethene | | | 50.0 | 51.9 | | ug/L | | 104 | 80 - 123 | 3 | 20 |
| Methylcyclohexane | | | 50.0 | 55.0 | | ug/L | | 110 | 75 - 127 | 0 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 52.4 | | ug/L | | 105 | 80 - 123 | 2 | 20 |
| Bromodichloromethane | | | 50.0 | 52.1 | | ug/L | | 104 | 77 - 129 | 2 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 52.7 | | ug/L | | 105 | 80 - 133 | 1 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 242 | | ug/L | | 97 | 75 - 135 | 2 | 30 |
| Toluene | | | 50.0 | 51.1 | | ug/L | | 102 | 80 - 122 | 1 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 52.9 | | ug/L | | 106 | 74 - 140 | 1 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 52.5 | | ug/L | | 105 | 79 - 125 | 0 | 20 |
| Tetrachloroethene | | | 50.0 | 53.8 | | ug/L | | 108 | 77 - 123 | 3 | 20 |
| 2-Hexanone | | | 250 | 245 | | ug/L | | 98 | 70 - 141 | 1 | 40 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-378019/5**
**Matrix: Water**
**Analysis Batch: 378019**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dibromochloromethane | | | 50.0 | 52.3 | | ug/L | | 105 | 71 - 136 | 0 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 50.7 | | ug/L | | 101 | 77 - 131 | 2 | 30 |
| Chlorobenzene | | | 50.0 | 52.9 | | ug/L | | 106 | 80 - 120 | 3 | 20 |
| Ethylbenzene | | | 50.0 | 53.6 | | ug/L | | 107 | 80 - 120 | 3 | 20 |
| Xylenes, Total | | | 100 | 107 | | ug/L | | 107 | 80 - 120 | 4 | 20 |
| Styrene | | | 50.0 | 53.1 | | ug/L | | 106 | 80 - 122 | 1 | 20 |
| Bromoform | | | 50.0 | 56.5 | | ug/L | | 113 | 69 - 135 | 4 | 20 |
| Isopropylbenzene | | | 50.0 | 55.1 | | ug/L | | 110 | 80 - 120 | 4 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 50.7 | | ug/L | | 101 | 72 - 128 | 1 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 51.8 | | ug/L | | 104 | 80 - 120 | 2 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 51.8 | | ug/L | | 104 | 80 - 120 | 3 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 50.4 | | ug/L | | 101 | 80 - 120 | 2 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 48.8 | | ug/L | | 98 | 59 - 141 | 2 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 53.6 | | ug/L | | 107 | 77 - 131 | 3 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *107* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *108* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* |

**Lab Sample ID: MB 680-378022/9**
**Matrix: Water**
**Analysis Batch: 378022**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/09/15 10:45 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 10:45 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 10:45 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 10:45 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 10:45 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/09/15 10:45 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/09/15 10:45 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/09/15 10:45 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/09/15 10:45 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 10:45 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 10:45 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/09/15 10:45 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/09/15 10:45 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/09/15 10:45 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 10:45 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/09/15 10:45 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 10:45 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 10:45 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-378022/9**
**Matrix: Water**
**Analysis Batch: 378022**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/09/15 10:45 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 10:45 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/09/15 10:45 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 10:45 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/09/15 10:45 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/09/15 10:45 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/09/15 10:45 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 10:45 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/09/15 10:45 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/09/15 10:45 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/09/15 10:45 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/09/15 10:45 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/09/15 10:45 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/09/15 10:45 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/09/15 10:45 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 10:45 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/09/15 10:45 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/09/15 10:45 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/09/15 10:45* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/09/15 10:45* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *04/09/15 10:45* | *1* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *70 - 130* | | *04/09/15 10:45* | *1* |

**Lab Sample ID: LCS 680-378022/4**
**Matrix: Water**
**Analysis Batch: 378022**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 54.3 | | ug/L | | 109 | 51 - 140 |
| Chloromethane | 50.0 | 45.3 | | ug/L | | 91 | 63 - 126 |
| Vinyl chloride | 50.0 | 50.8 | | ug/L | | 102 | 68 - 132 |
| Bromomethane | 50.0 | 37.3 | | ug/L | | 75 | 20 - 180 |
| Chloroethane | 50.0 | 51.6 | | ug/L | | 103 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 56.3 | | ug/L | | 113 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 44.0 | | ug/L | | 88 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 46.2 | | ug/L | | 92 | 65 - 131 |
| Acetone | 250 | 248 | | ug/L | | 99 | 60 - 154 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-378022/4**
**Matrix: Water**
**Analysis Batch: 378022**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Carbon disulfide | 50.0 | 41.4 | | ug/L | | 83 | 73 - 127 |
| Methyl acetate | 250 | 265 | | ug/L | | 106 | 66 - 134 |
| Methylene Chloride | 50.0 | 48.3 | | ug/L | | 97 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 47.2 | | ug/L | | 94 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 48.0 | | ug/L | | 96 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 48.6 | | ug/L | | 97 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 47.5 | | ug/L | | 95 | 80 - 122 |
| 2-Butanone | 250 | 250 | | ug/L | | 100 | 75 - 133 |
| Chloroform | 50.0 | 49.6 | | ug/L | | 99 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 48.9 | | ug/L | | 98 | 74 - 128 |
| Cyclohexane | 50.0 | 42.9 | | ug/L | | 86 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 50.2 | | ug/L | | 100 | 75 - 130 |
| Benzene | 50.0 | 47.1 | | ug/L | | 94 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 47.9 | | ug/L | | 96 | 75 - 130 |
| Trichloroethene | 50.0 | 46.7 | | ug/L | | 93 | 80 - 123 |
| Methylcyclohexane | 50.0 | 44.4 | | ug/L | | 89 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 48.0 | | ug/L | | 96 | 80 - 123 |
| Bromodichloromethane | 50.0 | 50.4 | | ug/L | | 101 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 51.7 | | ug/L | | 103 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 244 | | ug/L | | 98 | 75 - 135 |
| Toluene | 50.0 | 48.1 | | ug/L | | 96 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 54.5 | | ug/L | | 109 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 49.1 | | ug/L | | 98 | 79 - 125 |
| Tetrachloroethene | 50.0 | 46.2 | | ug/L | | 92 | 77 - 123 |
| 2-Hexanone | 250 | 242 | | ug/L | | 97 | 70 - 141 |
| Dibromochloromethane | 50.0 | 51.7 | | ug/L | | 103 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 48.2 | | ug/L | | 96 | 77 - 131 |
| Chlorobenzene | 50.0 | 47.8 | | ug/L | | 96 | 80 - 120 |
| Ethylbenzene | 50.0 | 47.1 | | ug/L | | 94 | 80 - 120 |
| Xylenes, Total | 100 | 95.6 | | ug/L | | 96 | 80 - 120 |
| Styrene | 50.0 | 47.1 | | ug/L | | 94 | 80 - 122 |
| Bromoform | 50.0 | 51.8 | | ug/L | | 104 | 69 - 135 |
| Isopropylbenzene | 50.0 | 48.4 | | ug/L | | 97 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 50.5 | | ug/L | | 101 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 48.1 | | ug/L | | 96 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 48.0 | | ug/L | | 96 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 48.2 | | ug/L | | 96 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 53.9 | | ug/L | | 108 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 45.7 | | ug/L | | 91 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-378022/5**
**Matrix: Water**
**Analysis Batch: 378022**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 54.5 | | ug/L | | 109 | 51 - 140 | 0 | 40 |
| Chloromethane | 50.0 | 46.3 | | ug/L | | 93 | 63 - 126 | 2 | 30 |
| Vinyl chloride | 50.0 | 51.8 | | ug/L | | 104 | 68 - 132 | 2 | 30 |
| Bromomethane | 50.0 | 39.5 | | ug/L | | 79 | 20 - 180 | 6 | 40 |
| Chloroethane | 50.0 | 52.3 | | ug/L | | 105 | 50 - 151 | 1 | 30 |
| Trichlorofluoromethane | 50.0 | 56.3 | | ug/L | | 113 | 58 - 145 | 0 | 30 |
| 1,1-Dichloroethene | 50.0 | 44.3 | | ug/L | | 89 | 74 - 125 | 1 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 47.2 | | ug/L | | 94 | 65 - 131 | 2 | 30 |
| Acetone | 250 | 247 | | ug/L | | 99 | 60 - 154 | 0 | 40 |
| Carbon disulfide | 50.0 | 42.8 | | ug/L | | 86 | 73 - 127 | 3 | 20 |
| Methyl acetate | 250 | 265 | | ug/L | | 106 | 66 - 134 | 0 | 30 |
| Methylene Chloride | 50.0 | 48.9 | | ug/L | | 98 | 76 - 129 | 1 | 20 |
| trans-1,2-Dichloroethene | 50.0 | 47.3 | | ug/L | | 95 | 78 - 123 | 0 | 20 |
| Methyl tert-butyl ether | 50.0 | 48.5 | | ug/L | | 97 | 74 - 135 | 1 | 20 |
| 1,1-Dichloroethane | 50.0 | 48.8 | | ug/L | | 98 | 80 - 120 | 0 | 20 |
| cis-1,2-Dichloroethene | 50.0 | 47.5 | | ug/L | | 95 | 80 - 122 | 0 | 20 |
| 2-Butanone | 250 | 250 | | ug/L | | 100 | 75 - 133 | 0 | 30 |
| Chloroform | 50.0 | 50.4 | | ug/L | | 101 | 79 - 122 | 2 | 20 |
| 1,1,1-Trichloroethane | 50.0 | 49.4 | | ug/L | | 99 | 74 - 128 | 1 | 20 |
| Cyclohexane | 50.0 | 43.2 | | ug/L | | 86 | 69 - 130 | 1 | 30 |
| Carbon tetrachloride | 50.0 | 50.6 | | ug/L | | 101 | 75 - 130 | 1 | 20 |
| Benzene | 50.0 | 47.3 | | ug/L | | 95 | 73 - 131 | 0 | 30 |
| 1,2-Dichloroethane | 50.0 | 46.9 | | ug/L | | 94 | 75 - 130 | 2 | 20 |
| Trichloroethene | 50.0 | 47.2 | | ug/L | | 94 | 80 - 123 | 1 | 20 |
| Methylcyclohexane | 50.0 | 45.1 | | ug/L | | 90 | 75 - 127 | 1 | 30 |
| 1,2-Dichloropropane | 50.0 | 49.1 | | ug/L | | 98 | 80 - 123 | 2 | 20 |
| Bromodichloromethane | 50.0 | 50.5 | | ug/L | | 101 | 77 - 129 | 0 | 20 |
| cis-1,3-Dichloropropene | 50.0 | 52.2 | | ug/L | | 104 | 80 - 133 | 1 | 20 |
| 4-Methyl-2-pentanone | 250 | 243 | | ug/L | | 97 | 75 - 135 | 1 | 30 |
| Toluene | 50.0 | 48.3 | | ug/L | | 97 | 80 - 122 | 0 | 20 |
| trans-1,3-Dichloropropene | 50.0 | 55.2 | | ug/L | | 110 | 74 - 140 | 1 | 20 |
| 1,1,2-Trichloroethane | 50.0 | 49.6 | | ug/L | | 99 | 79 - 125 | 1 | 20 |
| Tetrachloroethene | 50.0 | 46.2 | | ug/L | | 92 | 77 - 123 | 0 | 20 |
| 2-Hexanone | 250 | 242 | | ug/L | | 97 | 70 - 141 | 0 | 40 |
| Dibromochloromethane | 50.0 | 52.2 | | ug/L | | 104 | 71 - 136 | 1 | 20 |
| 1,2-Dibromoethane | 50.0 | 48.7 | | ug/L | | 97 | 77 - 131 | 1 | 30 |
| Chlorobenzene | 50.0 | 48.6 | | ug/L | | 97 | 80 - 120 | 2 | 20 |
| Ethylbenzene | 50.0 | 47.8 | | ug/L | | 96 | 80 - 120 | 1 | 20 |
| Xylenes, Total | 100 | 96.4 | | ug/L | | 96 | 80 - 120 | 1 | 20 |
| Styrene | 50.0 | 47.6 | | ug/L | | 95 | 80 - 122 | 1 | 20 |
| Bromoform | 50.0 | 52.6 | | ug/L | | 105 | 69 - 135 | 2 | 20 |
| Isopropylbenzene | 50.0 | 48.9 | | ug/L | | 98 | 80 - 120 | 1 | 20 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 50.9 | | ug/L | | 102 | 72 - 128 | 1 | 20 |
| 1,3-Dichlorobenzene | 50.0 | 48.4 | | ug/L | | 97 | 80 - 120 | 1 | 20 |
| 1,4-Dichlorobenzene | 50.0 | 47.4 | | ug/L | | 95 | 80 - 120 | 1 | 20 |
| 1,2-Dichlorobenzene | 50.0 | 48.9 | | ug/L | | 98 | 80 - 120 | 1 | 20 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 54.3 | | ug/L | | 109 | 59 - 141 | 1 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-378022/5**
**Matrix: Water**
**Analysis Batch: 378022**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | | | 50.0 | 46.3 | | ug/L | | 93 | 77 - 131 | 1 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *100* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |

**Lab Sample ID: MB 680-378174/9**
**Matrix: Water**
**Analysis Batch: 378174**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/10/15 10:44 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/10/15 10:44 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/10/15 10:44 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/10/15 10:44 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/10/15 10:44 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/10/15 10:44 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/10/15 10:44 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/10/15 10:44 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/10/15 10:44 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/10/15 10:44 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/10/15 10:44 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/10/15 10:44 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/10/15 10:44 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/10/15 10:44 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/10/15 10:44 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/10/15 10:44 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/10/15 10:44 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/10/15 10:44 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/10/15 10:44 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/10/15 10:44 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/10/15 10:44 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/10/15 10:44 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/10/15 10:44 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/10/15 10:44 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/10/15 10:44 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/10/15 10:44 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/10/15 10:44 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/10/15 10:44 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-378174/9**
**Matrix: Water**
**Analysis Batch: 378174**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/10/15 10:44 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/10/15 10:44 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/10/15 10:44 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/10/15 10:44 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/10/15 10:44 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/10/15 10:44 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/10/15 10:44 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/10/15 10:44 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *106* | | *70 - 130* | | *04/10/15 10:44* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 130* | | *04/10/15 10:44* | *1* |
| *Dibromofluoromethane (Surr)* | *106* | | *70 - 130* | | *04/10/15 10:44* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *04/10/15 10:44* | *1* |

**Lab Sample ID: LCS 680-378174/4**
**Matrix: Water**
**Analysis Batch: 378174**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 45.4 | | ug/L | | 91 | 51 - 140 |
| Chloromethane | 50.0 | 45.3 | | ug/L | | 91 | 63 - 126 |
| Vinyl chloride | 50.0 | 48.6 | | ug/L | | 97 | 68 - 132 |
| Bromomethane | 50.0 | 49.3 | | ug/L | | 99 | 20 - 180 |
| Chloroethane | 50.0 | 50.9 | | ug/L | | 102 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 48.6 | | ug/L | | 97 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 50.3 | | ug/L | | 101 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 50.7 | | ug/L | | 101 | 65 - 131 |
| Acetone | 250 | 256 | | ug/L | | 102 | 60 - 154 |
| Carbon disulfide | 50.0 | 50.4 | | ug/L | | 101 | 73 - 127 |
| Methyl acetate | 250 | 271 | | ug/L | | 109 | 66 - 134 |
| Methylene Chloride | 50.0 | 55.7 | | ug/L | | 111 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 49.8 | | ug/L | | 100 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 52.3 | | ug/L | | 105 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 53.0 | | ug/L | | 106 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 50.5 | | ug/L | | 101 | 80 - 122 |
| 2-Butanone | 250 | 243 | | ug/L | | 97 | 75 - 133 |
| Chloroform | 50.0 | 52.5 | | ug/L | | 105 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 49.0 | | ug/L | | 98 | 74 - 128 |
| Cyclohexane | 50.0 | 48.9 | | ug/L | | 98 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 50.0 | | ug/L | | 100 | 75 - 130 |
| Benzene | 50.0 | 49.9 | | ug/L | | 100 | 73 - 131 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-378174/4**
**Matrix: Water**
**Analysis Batch: 378174**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 50.0 | 51.3 | | ug/L | | 103 | 75 - 130 |
| Trichloroethene | 50.0 | 49.7 | | ug/L | | 99 | 80 - 123 |
| Methylcyclohexane | 50.0 | 49.7 | | ug/L | | 99 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 51.8 | | ug/L | | 104 | 80 - 123 |
| Bromodichloromethane | 50.0 | 51.5 | | ug/L | | 103 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 52.6 | | ug/L | | 105 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 246 | | ug/L | | 99 | 75 - 135 |
| Toluene | 50.0 | 50.0 | | ug/L | | 100 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 52.4 | | ug/L | | 105 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 53.2 | | ug/L | | 106 | 79 - 125 |
| Tetrachloroethene | 50.0 | 50.5 | | ug/L | | 101 | 77 - 123 |
| 2-Hexanone | 250 | 242 | | ug/L | | 97 | 70 - 141 |
| Dibromochloromethane | 50.0 | 53.4 | | ug/L | | 107 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 52.2 | | ug/L | | 104 | 77 - 131 |
| Chlorobenzene | 50.0 | 52.2 | | ug/L | | 104 | 80 - 120 |
| Ethylbenzene | 50.0 | 50.7 | | ug/L | | 101 | 80 - 120 |
| Xylenes, Total | 100 | 102 | | ug/L | | 102 | 80 - 120 |
| Styrene | 50.0 | 52.3 | | ug/L | | 105 | 80 - 122 |
| Bromoform | 50.0 | 57.5 | | ug/L | | 115 | 69 - 135 |
| Isopropylbenzene | 50.0 | 52.3 | | ug/L | | 105 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 51.1 | | ug/L | | 102 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 50.5 | | ug/L | | 101 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 49.8 | | ug/L | | 100 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 50.0 | | ug/L | | 100 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 49.6 | | ug/L | | 99 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 51.7 | | ug/L | | 103 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *99* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *105* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |

**Lab Sample ID: LCSD 680-378174/5**
**Matrix: Water**
**Analysis Batch: 378174**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 46.3 | | ug/L | | 93 | 51 - 140 | 2 | 40 |
| Chloromethane | 50.0 | 44.9 | | ug/L | | 90 | 63 - 126 | 1 | 30 |
| Vinyl chloride | 50.0 | 54.7 | | ug/L | | 109 | 68 - 132 | 12 | 30 |
| Bromomethane | 50.0 | 48.7 | | ug/L | | 97 | 20 - 180 | 1 | 40 |
| Chloroethane | 50.0 | 54.9 | | ug/L | | 110 | 50 - 151 | 8 | 30 |
| Trichlorofluoromethane | 50.0 | 50.6 | | ug/L | | 101 | 58 - 145 | 4 | 30 |
| 1,1-Dichloroethene | 50.0 | 52.8 | | ug/L | | 106 | 74 - 125 | 5 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 54.6 | | ug/L | | 109 | 65 - 131 | 7 | 30 |
| Acetone | 250 | 238 | | ug/L | | 95 | 60 - 154 | 7 | 40 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-378174/5**
**Matrix: Water**
**Analysis Batch: 378174**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | | | 50.0 | 53.5 | | ug/L | | 107 | 73 - 127 | 6 | 20 |
| Methyl acetate | | | 250 | 253 | | ug/L | | 101 | 66 - 134 | 7 | 30 |
| Methylene Chloride | | | 50.0 | 53.5 | | ug/L | | 107 | 76 - 129 | 4 | 20 |
| trans-1,2-Dichloroethene | | | 50.0 | 50.4 | | ug/L | | 101 | 78 - 123 | 1 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 50.0 | | ug/L | | 100 | 74 - 135 | 4 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 52.3 | | ug/L | | 105 | 80 - 120 | 1 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 50.8 | | ug/L | | 102 | 80 - 122 | 1 | 20 |
| 2-Butanone | | | 250 | 239 | | ug/L | | 96 | 75 - 133 | 1 | 30 |
| Chloroform | | | 50.0 | 52.0 | | ug/L | | 104 | 79 - 122 | 1 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 51.3 | | ug/L | | 103 | 74 - 128 | 5 | 20 |
| Cyclohexane | | | 50.0 | 52.0 | | ug/L | | 104 | 69 - 130 | 6 | 30 |
| Carbon tetrachloride | | | 50.0 | 52.4 | | ug/L | | 105 | 75 - 130 | 5 | 20 |
| Benzene | | | 50.0 | 50.5 | | ug/L | | 101 | 73 - 131 | 1 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 48.2 | | ug/L | | 96 | 75 - 130 | 6 | 20 |
| Trichloroethene | | | 50.0 | 52.9 | | ug/L | | 106 | 80 - 123 | 6 | 20 |
| Methylcyclohexane | | | 50.0 | 53.4 | | ug/L | | 107 | 75 - 127 | 7 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 50.3 | | ug/L | | 101 | 80 - 123 | 3 | 20 |
| Bromodichloromethane | | | 50.0 | 50.4 | | ug/L | | 101 | 77 - 129 | 2 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 51.5 | | ug/L | | 103 | 80 - 133 | 2 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 238 | | ug/L | | 95 | 75 - 135 | 4 | 30 |
| Toluene | | | 50.0 | 50.9 | | ug/L | | 102 | 80 - 122 | 2 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 51.7 | | ug/L | | 103 | 74 - 140 | 1 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 50.7 | | ug/L | | 101 | 79 - 125 | 5 | 20 |
| Tetrachloroethene | | | 50.0 | 53.0 | | ug/L | | 106 | 77 - 123 | 5 | 20 |
| 2-Hexanone | | | 250 | 238 | | ug/L | | 95 | 70 - 141 | 2 | 40 |
| Dibromochloromethane | | | 50.0 | 52.5 | | ug/L | | 105 | 71 - 136 | 2 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 51.3 | | ug/L | | 103 | 77 - 131 | 2 | 30 |
| Chlorobenzene | | | 50.0 | 52.4 | | ug/L | | 105 | 80 - 120 | 0 | 20 |
| Ethylbenzene | | | 50.0 | 53.6 | | ug/L | | 107 | 80 - 120 | 5 | 20 |
| Xylenes, Total | | | 100 | 106 | | ug/L | | 106 | 80 - 120 | 4 | 20 |
| Styrene | | | 50.0 | 53.8 | | ug/L | | 108 | 80 - 122 | 3 | 20 |
| Bromoform | | | 50.0 | 57.4 | | ug/L | | 115 | 69 - 135 | 0 | 20 |
| Isopropylbenzene | | | 50.0 | 54.9 | | ug/L | | 110 | 80 - 120 | 5 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 50.4 | | ug/L | | 101 | 72 - 128 | 1 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 50.8 | | ug/L | | 102 | 80 - 120 | 1 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 50.8 | | ug/L | | 102 | 80 - 120 | 2 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 49.8 | | ug/L | | 100 | 80 - 120 | 1 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 50.8 | | ug/L | | 102 | 59 - 141 | 2 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 52.1 | | ug/L | | 104 | 77 - 131 | 1 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *107* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* |

## GC/MS VOA

### Analysis Batch: 378017

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-111248-23 | MW-37 | Total/NA | Water | 8260B | |
| 680-111248-24 | PAN-MW-9 | Total/NA | Water | 8260B | |
| LCS 680-378017/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-378017/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-378017/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 378019

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-111248-18 | MW-32 | Total/NA | Water | 8260B | |
| 680-111248-19 | MW-33 | Total/NA | Water | 8260B | |
| LCS 680-378019/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-378019/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-378019/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 378022

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-111248-1 | IW-1R | Total/NA | Water | 8260B | |
| 680-111248-3 | LAW-PZ-8R | Total/NA | Water | 8260B | |
| 680-111248-4 | MW-14 | Total/NA | Water | 8260B | |
| 680-111248-6 | MW-17R | Total/NA | Water | 8260B | |
| 680-111248-7 | MW-18R | Total/NA | Water | 8260B | |
| 680-111248-8 | MW-19 | Total/NA | Water | 8260B | |
| 680-111248-9 | MW-23 | Total/NA | Water | 8260B | |
| 680-111248-11 | MW-25 | Total/NA | Water | 8260B | |
| 680-111248-13 | MW-27 | Total/NA | Water | 8260B | |
| 680-111248-14 | MW-28 | Total/NA | Water | 8260B | |
| 680-111248-15 | MW-29 | Total/NA | Water | 8260B | |
| 680-111248-16 | MW-30 | Total/NA | Water | 8260B | |
| 680-111248-17 | MW-31 | Total/NA | Water | 8260B | |
| 680-111248-20 | MW-34 | Total/NA | Water | 8260B | |
| 680-111248-21 | MW-35 | Total/NA | Water | 8260B | |
| 680-111248-22 | MW-36 | Total/NA | Water | 8260B | |
| 680-111248-25 | PAN-MW-10 | Total/NA | Water | 8260B | |
| 680-111248-26 | Trip Blank | Total/NA | Water | 8260B | |
| LCS 680-378022/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-378022/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-378022/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 378174

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-111248-2 | IW-18 | Total/NA | Water | 8260B | |
| 680-111248-5 | MW-16 | Total/NA | Water | 8260B | |
| 680-111248-10 | MW-24R | Total/NA | Water | 8260B | |
| 680-111248-12 | MW-26R | Total/NA | Water | 8260B | |
| LCS 680-378174/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-378174/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-378174/9 | Method Blank | Total/NA | Water | 8260B | |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

## Client Sample ID: IW-1R — Lab Sample ID: 680-111248-1

**Date Collected: 04/02/15 15:37** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 200 | 5 mL | 5 mL | 378022 | 04/09/15 17:00 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: IW-18 — Lab Sample ID: 680-111248-2

**Date Collected: 04/02/15 12:36** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 10 | 5 mL | 5 mL | 378174 | 04/10/15 12:49 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: LAW-PZ-8R — Lab Sample ID: 680-111248-3

**Date Collected: 04/02/15 16:57** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1000 | 5 mL | 5 mL | 378022 | 04/09/15 17:22 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: MW-14 — Lab Sample ID: 680-111248-4

**Date Collected: 04/01/15 18:23** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 11:38 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: MW-16 — Lab Sample ID: 680-111248-5

**Date Collected: 04/02/15 11:21** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 2 | 5 mL | 5 mL | 378174 | 04/10/15 11:46 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-17R — Lab Sample ID: 680-111248-6

**Date Collected: 03/31/15 16:58** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 12:21 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-18R** — **Lab Sample ID: 680-111248-7**
**Date Collected: 03/30/15 09:49** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 12:42 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-19** — **Lab Sample ID: 680-111248-8**
**Date Collected: 03/30/15 12:23** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 13:04 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-23** — **Lab Sample ID: 680-111248-9**
**Date Collected: 03/30/15 14:29** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 13:25 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-24R** — **Lab Sample ID: 680-111248-10**
**Date Collected: 04/01/15 10:33** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 5 | 5 mL | 5 mL | 378174 | 04/10/15 12:28 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

**Client Sample ID: MW-25** — **Lab Sample ID: 680-111248-11**
**Date Collected: 03/30/15 11:23** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 13:47 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-26R** — **Lab Sample ID: 680-111248-12**
**Date Collected: 04/02/15 10:05** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 100 | 5 mL | 5 mL | 378174 | 04/10/15 13:31 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

**Client Sample ID: MW-27** — **Lab Sample ID: 680-111248-13**
**Date Collected: 03/30/15 16:18** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 14:08 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-28** — **Lab Sample ID: 680-111248-14**
**Date Collected: 03/31/15 10:20** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 14:30 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-29** — **Lab Sample ID: 680-111248-15**
**Date Collected: 04/01/15 17:43** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 50 | 5 mL | 5 mL | 378022 | 04/09/15 17:43 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-30** — **Lab Sample ID: 680-111248-16**
**Date Collected: 04/02/15 18:13** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 14:51 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-31** — **Lab Sample ID: 680-111248-17**
**Date Collected: 03/30/15 15:35** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 15:13 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-32** — **Lab Sample ID: 680-111248-18**
**Date Collected: 03/31/15 17:50** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378019 | 04/09/15 16:38 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

**Client Sample ID: MW-33** — **Lab Sample ID: 680-111248-19**
**Date Collected: 04/02/15 13:27** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378019 | 04/09/15 16:59 | MMT | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

**Client Sample ID: MW-34** — **Lab Sample ID: 680-111248-20**
**Date Collected: 03/31/15 11:17** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 15:34 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-35** — **Lab Sample ID: 680-111248-21**
**Date Collected: 03/31/15 15:12** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 15:56 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-36** — **Lab Sample ID: 680-111248-22**
**Date Collected: 03/31/15 16:05** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 16:17 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Client Sample ID: MW-37** — **Lab Sample ID: 680-111248-23**
**Date Collected: 03/31/15 12:05** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 2 | 5 mL | 5 mL | 378017 | 04/09/15 13:48 | MMT | TAL SAV |
| | Instrument ID: CMSAC | | | | | | | | | |

**Client Sample ID: PAN-MW-9** — **Lab Sample ID: 680-111248-24**
**Date Collected: 04/01/15 18:58** — **Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 10 | 5 mL | 5 mL | 378017 | 04/09/15 13:25 | MMT | TAL SAV |
| | Instrument ID: CMSAC | | | | | | | | | |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

## Client Sample ID: PAN-MW-10

**Lab Sample ID: 680-111248-25**

**Date Collected: 04/01/15 09:20**
**Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 16:39 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: Trip Blank

**Lab Sample ID: 680-111248-26**

**Date Collected: 03/30/15 00:00**
**Matrix: Water**
**Date Received: 04/03/15 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 378022 | 04/09/15 11:16 | MMT | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Laboratory References:**

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Serial Number 93976

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:


| | | | |
|---|---|---|---|
| PROJECT REFERENCE: VAPAK, Savannah | PROJECT NO.: 39002.0 | PROJECT LOCATION (STATE): GA | |
| TAL (LAB) PROJECT MANAGER: Sheila Hoffman | P.O. NUMBER: 901342 | CONTRACT NO. | |
| CLIENT (SITE) PM: Alan Sanders | CLIENT PHONE: 770 772 7100 | CLIENT FAX | |
| CLIENT NAME: EIC | CLIENT E-MAIL: asanders@eicusa.com | | |
| CLIENT ADDRESS: 161 Kimball Bridge Rd Alpharetta GA 30009 | | | |
| COMPANY CONTRACTING THIS WORK (if applicable) | | | |

PAGE 1 OF 3

STANDARD REPORT DELIVERY ✓ DATE DUE 4/17/15

EXPEDITED REPORT DELIVERY (SURCHARGE) ○ DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE | AQUEOUS (WATER) | SOLID OR SEMISOLID | AIR | NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | REQUIRED ANALYSIS: 8260B | REQUIRED ANALYSIS: HCl | NUMBER OF CONTAINERS SUBMITTED | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/2/15 | 15:37 | IW-1R | G | X | | | | | | 3 | |
| 4/2/15 | 12:36 | IW-18 | G | X | | | | | | 3 | |
| 4/2/15 | 16:57 | LAW-P2-8R | G | X | | | | | | 3 | |
| 4/1/15 | 18:23 | MW-14 | G | X | | | | | | 3 | |
| 4/2/15 | 11:21 | MW-16 | G | X | | | | | | 3 | |
| 3/31/15 | 16:58 | MW-17R | G | X | | | | | | 3 | |
| 3/30/15 | 9:49 | MW-18R | G | X | | | | | | 2 | |
| 3/30/15 | 12:23 | MW-19 | G | X | | | | | | 3 | |
| 3/30/15 | 14:29 | MW-23 | G | X | | | | | | 3 | |
| 4/1/15 | 10:33 | MW-24R | G | X | | | | | | 3 | |
| 3/30/15 | 11:23 | MW-25 | G | X | | | | | | 3 | |
| 4/2/15 | 10:05 | MW-26R | G | X | | | | | | 3 | |

680-111248 Chain of Custody

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| | 4/3/15 | 8:30 | | | | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| | | | | | | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| | 4/3/15 | 8:30 | YES ○ NO ○ | | | 6.2 / 6.6 |

TAL8240-680 (1008)

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4/10/2015

Serial Number 93977

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


✓ TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

○ Alternate Laboratory Name/Location

Phone:
Fax:


| PROJECT REFERENCE | PROJECT NO | PROJECT LOCATION (STATE) |
|---|---|---|
| VOPAK, Savannah | 390020 | GA |

| TAL (LAB) PROJECT MANAGER | PO NUMBER | CONTRACT NO |
|---|---|---|
| Sheila Hoffman | 901343 | |

| CLIENT (SITE) PM | CLIENT PHONE | CLIENT FAX |
|---|---|---|
| Alan Sanders | 770-772-7100 | |

| CLIENT NAME | CLIENT E-MAIL |
|---|---|
| EIC | asanders@eicusa.com |

CLIENT ADDRESS: 161 Kimball Bridge Rd Alpharetta GA 30009

COMPANY CONTRACTING THIS WORK (if applicable):

PAGE 2 OF 3

STANDARD REPORT DELIVERY ✓ DATE DUE 4/17/15

EXPEDITED REPORT DELIVERY (SURCHARGE) ○ DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE | AQUEOUS (WATER) | SOLID OR SEMISOLID | AIR | NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | REQUIRED ANALYSIS: 8260B | HU | NUMBER OF CONTAINERS SUBMITTED | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/30/15 | 16:18 | MW-27 | G | X | | | | | | 3 | |
| 3/31/15 | 10:20 | MW-28 | G | X | | | | | | 3 | |
| 4/1/15 | 17:43 | MW-29 | G | X | | | | | | 3 | |
| 4/2/15 | 18:13 | MW-30 | G | X | | | | | | 3 | |
| 3/30/15 | 15:35 | MW-31 | G | X | | | | | | 3 | |
| 3/31/15 | 17:50 | MW-32 | G | X | | | | | | 3 | |
| 4/2/15 | 13:27 | MW-33 | G | X | | | | | | 3 | |
| 3/31/15 | 11:17 | MW-34 | G | X | | | | | | 3 | |
| 3/31/15 | 15:12 | MW-35 | G | X | | | | | | 3 | |
| 3/31/15 | 16:05 | MW-36 | G | X | | | | | | 3 | |
| 3/31/15 | 12:05 | MW-37 | G | X | | | | | | 3 | |
| 4/1/15 | 18:58 | PAN-MW-9 | G | X | | | | | | 3 | |

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| [signature] | 4/3/15 | 8:30 | | | | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| | | | | | | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| [signature] | 4/3/15 | 830 | YES ○ NO ○ | | | 0.2/0.6 680-111248 |

TAL8240-680 (1008)

Serial Number 93979

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


(✓) TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

( ) Alternate Laboratory Name/Location

Phone:
Fax:


| | | | |
|---|---|---|---|
| PROJECT REFERENCE: VOPAK Savannah | PROJECT NO.: 390020 | PROJECT LOCATION (STATE): GA | |
| TAL (LAB) PROJECT MANAGER: Sheila Hoffman | P.O. NUMBER: 901341 | CONTRACT NO. | |
| CLIENT (SITE) PM: Alan Sanders | CLIENT PHONE: 770-771-7100 | CLIENT FAX | |
| CLIENT NAME: EIC | CLIENT E-MAIL: asanders@eicusa.com | | |
| CLIENT ADDRESS: 161 Kimball Bridge Rd Alpharetta GA 30009 | | | |
| COMPANY CONTRACTING THIS WORK (if applicable) | | | |

PAGE 3 OF 3

STANDARD REPORT DELIVERY (✓)
DATE DUE 4/17/15

EXPEDITED REPORT DELIVERY (SURCHARGE) ( )
DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | COMPOSITE (C) OR GRAB (G) INDICATE | MATRIX TYPE: AQUEOUS (WATER) | MATRIX TYPE: SOLID OR SEMISOLID | MATRIX TYPE: AIR | MATRIX TYPE: NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | REQUIRED ANALYSIS: 8260B | REQUIRED ANALYSIS: HV | NUMBER OF CONTAINERS SUBMITTED | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/1/15 | 9:20 | PAN-MW-10 | G | X | | | | 3 | | 3 | |
| — | — | Trip Blanks | | X | | | | 2 | | 2 | |

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| Sam Idun | 4/3/15 | 8:30 | | | | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| | | | | | | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| | 4/3/15 | 8:30 | YES ( ) NO ( ) | | 680-111248 | 6.2/6.6 |

TAL 8240-680 (1008)

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4/10/2015

# Login Sample Receipt Checklist

Client: Environmental International Corporation

Job Number: 680-111248-1

**Login Number: 111248**

**List Source: TestAmerica Savannah**

**List Number: 1**

**Creator: White, Menica R**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | False | RECEIVED ON ICE, BUT GOT A TEMP OF 6.2 WITH A CF OF 6.6 |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | N/A | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

# Certification Summary

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

## Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| Georgia | State Program | 4 | N/A | 06-30-15 |
| Georgia | State Program | 4 | 803 | 06-30-15 |

Client: Environmental International Corporation
Project/Site: VoPak, Savannah/390020

TestAmerica Job ID: 680-111248-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative error ratio |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# EIGHTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT C

# Environmental International Corporation
# Time by Job Summary
### March through August 22, 2015

| TASKS | Mar 15 | Apr 15 | May 15 | Jun 15 | Jul 15 | Aug 1 - 22, 15 | TOTAL |
|---|---|---|---|---|---|---|---|
| 390000- VOPAK:390020 - VTSI Quarterly MNA GW Sampling | 90 | 109 | 0 | 2 | 7 | 0 | 207 |
| 390000- VOPAK:390025 - Semi-annual report for VTSI | 3 | 3 | 0 | 0 | 8 | 89 | 102 |
| 390000- VOPAK:390031 - Site Conceptual Model | 26 | 6 | 4 | 56 | 4 | 14 | 109 |
| **TOTAL** | **118** | **118** | **4** | **58** | **19** | **102** | **418** |

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# EIGHTH SEMI-ANNUAL PROGRESS REPORT

# APPENDIX A

PCE REMEDIATION, HSI SITE 10464, VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# 2015 SITE CONCEPTUAL MODEL REPORT

August 28, 2015

EIC Project No. 390031

Submitted To:
**GEORGIA ENVIRONMENTAL PROTECTION DIVISION**
Georgia Department of Natural Resources
Response and Remediation Program
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SECTION

1

# 1.0 INTRODUCTION

VOPAK Terminal Savannah, Inc. (VOPAK) submitted a preliminary site conceptual model (SCM) of the area affected by a tetrachloroethene/perchloroethene (PCE) plume as a part of their Voluntary Investigation and Remediation Plan (VIRP) that was approved by the Georgia Environmental Protection Division on August 31, 2011. Subsequently, VOPAK submitted an updated SCM report with the Sixth VIRP Semi-annual Progress Report submitted on August 29, 2014 (Environmental International Corporation (EIC), 2014). Following the updated 2014 SCM report, data has been obtained which further defines site characteristics and contaminant fate and transport mechanisms. Therefore, VOPAK has retained EIC to prepare a 2015 update to the VOPAK SCM.

The PCE plume at the site is the result of a release that occurred during the 1970s. Since the release, the PCE has degraded into other dissolved chlorinated volatile organic compounds (CVOCs). Additionally, certain VOCs, consisting of benzene, toluene, ethylbenzene, and xylenes (BTEX), have been consistently detected within the area of the CVOCs.

Typically, the SCM defines release sources, extent of contaminant plumes, fate and transport mechanisms, potential exposure pathways, and potential receptors that could be impacted. This information serves as an important tool in developing site remedies or in implementing certain measures designed to reach remedial end points. The sections within this report provide an updated SCM based on historical site data and data collected by EIC since the SCM was previously updated in August 2014.

## 1.1 SITE LOCATION AND PHYSICAL SETTING

It is important to note that VOPAK utilizes the subject property as a storage terminal based on a long-term lease with the Georgia Ports Authority (GPA). The physical site address is 280 Brampton Road, Savannah, Georgia (also known as the Georgia Ports Authority Gate No. 2 on Turner and Hart Street, Garden City, Georgia). The site, located in Chatham County, has operated as a bulk storage facility since 1951. Historically the terminal has stored various fuels and chemicals. The area surrounding the site consists of the Savannah River to the east; an

asphalt roofing materials manufacturing facility (GAF Materials Corporation), Brampton Road, and a rail yard to the south; and the GPA container storage facility to the west and north. Figure 1-1 illustrates the facility layout, wells utilized in the VIRP program, and other significant site features.

## 1.2 SITE BACKGROUND

As stated in EIC's SCM section of the 2011 revised VRP application (EIC, 2011), in 1996 a PCE release was discovered at the VOPAK Savannah site in the vicinity of Tank 24 within a tank farm designated as Tank Farm No. 2. Based on a historic tank inventory, PCE was stored at the site during the period from December 1972 to April 1975. Since no PCE has been stored at the site since 1975, the release was attributed to previous terminal operations. Subsequently, the previous owners of the site and VOPAK have conducted various investigatory and remedial activities per the EPD, including source removal.

In addition to the PCE release, benzene, toluene, ethylbenzene, and xylenes (BTEX) have been detected at the site above established risk reduction standards (RRS) in the underlying groundwater matrix. As discussed in EIC's previous SCM, there are three distinct BTEX plumes at the site (EIC, 2014). Two lie within the western end of Tank Farm #4 west of Tank Farm two and one lies within the CVOC plume in the vicinity of Tank Farm No. 2. The sources of these three plumes, however, are not apparent from the available historical documents (EIC, 2011). Based on the spatial and temporal distribution of the BTEX plumes relative to the groundwater flow direction, it is apparent that the two BTEX releases, located to the west of Tank Farm No. 2, are not hydraulically connected to nor are a source for the BTEX plume that is present within the PCE foot-print.

## 1.3 HYDROGEOLOGY

EIC has prepared two hydrogeological cross-sections that illustrate the subsurface at the site in the vicinity of the CVOC and VOC plumes. Figure 1-2 depicts a plan view of the cross-section traces. Cross Section A-A' (Figure 1-3) generally extends from south to north and Cross Section B-B' (Figure 1-4) generally extends from the northwest to southeast. These cross-sections are based on well boring logs recorded by EIC and correlate lithological units between adjacent wells. Based on EIC's interpretation of these cross-sections, the site is underlain by a complex inter-bedding of gravel, sand, silt, and clay units. This results in a complex matrix pathway for groundwater flow and is generally considered as anisotropic and non-homogeneous conditions.

Based on historical gauging data, depth to groundwater ranges approximately from 1 to 10 feet below ground surface. Groundwater at the site generally flows from southwest to northeast. Figures 1-5 through 1-7 illustrate variations in the groundwater potentiometric surface and flow direction at the site during three monitoring events.

Estimates of the hydraulic gradient at the site range from 0.0145 to 0.0133. Hydraulic conductivity was determined to range from 3.09 x $10^{-4}$ cm/sec to 4.31 x $10^{-5}$ cm/sec, and the estimated seepage velocity was determined to be approximately 21 to 23 feet per year (EIC, 2011).

### 1.3.1 Stratigraphy

To gain a better understanding of the hydrodynamics of fluid flow, EIC prepared stratigraphic cross-sections along the direction of the projected groundwater flow line (Figure 1-3, A-A') and perpendicular to the flow line (Figure 1-4, B-B') along equipotential lines.

EIC developed detailed lithological and well construction logs for the wells installed by EIC. Majority of the wells installed by previous contractor do not have detailed well construction and lithological logs. Consequently, EIC utilized only those wells that were installed by EIC for illustrating the stratigraphy.

From south to north, Cross Section A-A' includes monitoring wells MW-37, MW-34, MW-33, MW-32, and MW-36. From northwest to southeast, Cross Section B-B' includes monitoring wells MW-35, MW-31, MW-33, and MW-30. From these figures, it is apparent that the groundwater flow intercepts multiple stratigraphic layers which include basic lithological units such as gravel, sand, silt, and clay, as well as complex mixtures of these constituents such as sand with silt and silt with sand. The complex inter-bedding represented in the cross-sections is characteristic of local natural fluvial (river) deposits associated with the nearby Savannah River. No lower confining layers such as bedrock were encountered in any historical well logs at the site.

The flow pattern of groundwater through the complex inter-bedded units at the site would be anisotropic and non-homogeneous. Therefore, calculations based on Darcy's flow equations are rendered impractical for the purposes of modeling groundwater flow throughout the site.

### 1.3.2 Groundwater Potentiometric Surface Maps

To develop a greater understanding of the groundwater conditions at the site, EIC reviewed three select historical groundwater potentiometric surface maps, Figures 1-5 through 1-7, which illustrate the groundwater potentiometric surface during October 2011, January 2013, and April 2014, respectively. These figures were developed utilizing groundwater gauging and top-of-casing (TOC) elevation data listed in Tables 1-1 through 1-3. From these figures, it is apparent that the predominant groundwater flow direction is from the southwest to the northeast of the site.

From the data compiled from the three gauging events, EIC made the following observations. Referring to Figures 1-5 through 1-7, near the vicinity of Station 13 towards the southern tip of Tank farm No. 2, the groundwater potentiometric surface is relatively horizontal and low, sloping towards the northeast. In the vicinity of the tidal flat, towards the northeast of the site, the groundwater slope increases downward as it nears the Savannah River.

In the vicinity of Tank Farm No. 2, a surficial ridge and valley (or trough) feature has persisted which parallels the groundwater flow direction. These features originate southwest of Tank Farm No. 2, passes under Tank Farm No. 2, continues towards the northeast, and culminates northwest of Tank Farm No. 2 on GPA property. The trough feature generally crosses under the center of Tank Farm No. 2 and the ridge feature lies under and/or near the eastern berm of Tank Farm No. 2. Normally when such site conditions exist, COCs would be expected to migrate along the trough feature and to not extend up-gradient past the ridge feature paralleling the groundwater flow. This appears to be confirmed by historically relatively high COC concentrations detected at well MW-29 located within the trough feature and relatively low COC concentrations detected at well MW-30 east of the ridge feature.

### 1.3.3 Potential Impact of Substructures on Groundwater Flow

To determine the potential impact of substructures on groundwater flow, EIC has developed apparent depth to groundwater contour maps. Figures 1-8 and 1-9 illustrate the apparent depth to water at the site during the highest (April, 2014) and lowest (January, 2014) groundwater elevations recorded since October 2011, respectively.

From Figures 1-8 and 1-9, it is apparent that during the highest and lowest groundwater levels at the site, the depth to water ranged from zero to two feet near the southern end of Tank Farm No. 2. In addition, the area to the south of and surrounding the southern edge of Tank Farm No. 2 has a depth to water between zero and four feet. This shallow water table allows for the possible influence of subgrade structures and related back-filled trenching on groundwater flow such as stormwater pipes, water supply line pipes, and other below-grade conduits.

A stormwater reinforced concrete pipe, terminating at the bulkhead, is located perpendicular to groundwater flow. Figure 1-10 illustrates the location of this pipe relative to the bulkhead wall at the western end of the tidal flat. Figure 1-11 illustrates a cross sectional view of the pipe near the tidal flat bulkhead. Based on piping as-built drawings and on historical depth to groundwater measurements collected by EIC at well MW-32, the top of the pipe is submerged 1.6 to 2.8 ft. below the water table. The surrounding saturated soil, illustrated in Figure 1-12, which is based on the lithological log of MW-32, lying approximately 10 feet south of the trench, is primarily composed of silt and clay, which has inherently low effective porosity.

Although it is unlikely that the stormwater pipe itself may be inhibiting the bulk movement of contaminants in groundwater, the trench that was excavated for laying the pipe would be backfilled with highly porous material that can intersect the COC plume and prevent the plume from migrating further northward and down-gradient from the trench. Any COCs entering the pipe backfill can potentially migrate along the pipes. Based on the groundwater flow direction, such a plume can potentially migrate along the pipe towards the Savannah River. It is important to note, however, that such migration would be blocked by the concrete bulkhead wall. This is indicated by low or undetectable CVOC concentrations at well MW-17R, lying near the north end of the tidal flat bulkhead and down-gradient of the pipe trench.

It should be noted that EIC was researching additional as-built drawings of the pipe's installation, and data on the type of fill or bedding material utilized for the trench. EIC will assess potential impact of the subgrade storm water features at the site when more information becomes available.

## 1.4 TIDAL FLAT VERIFICATION

Initially, the area to the east of the bulkhead along the Savannah River was labelled as a tidal flat on site maps. Based on field observations and a cursory review of historical drawings, it appears that the stormwater discharge channel was man-made and does not represent a tidal flat. Currently, EIC is performing a detailed evaluation to verify that finding and is in the process of compiling supporting documents. The results of the evaluation will be submitted in the next semi-annual report. The discussions and figures in current document will continue referring to that area as a tidal flat until the aforementioned evaluation is complete.

SECTION

2

# 2.0 RELEASE SOURCE(S)

Based on historic data it is apparent that the there are two different release source(s) in the Tank Farm No. 2 area. Both releases are discussed in the following subsections.

## 2.1 PCE RELEASE

PCE was apparently stored in Tank 24 during the period from December 1972 through April 1975 (EIC, 2011 - VIRP). In 1996, a PCE release was discovered in the subsurface during construction activities in the vicinity of Tank 24. Considering that no PCE has been stored at the site since 1975, the release was attributed to previous terminal operations. Subsequently, the site's previous owners and VOPAK have conducted various investigatory and remedial activities per the EPD, including source removal (EIC, 2011 - VIRP).

Due to natural attenuation, the PCE has degraded into trichloroethene (TCE), cis-1, 2-dichloroethene (DCE), and vinyl chloride (VC). Therefore, both PCE and these daughter products are the primary constituents of concern (COC) at the facility. All four of these chemicals are CVOCs. Table 2-1 lists the analytical results of CVOCs monitored during the period from February 1991 through April 2015. It is noteworthy that certain monitoring wells were installed prior to the 1996 PCE release and were being monitored since February 1991. EIC is uncertain about the events that would have triggered installation and monitoring of those wells.

## 2.2 HYDROCARBON RELEASE

Based on the data presented in the 2005 corrective action plan (CAP) (ERM, 2005) and subsequent sampling events, it is apparent that certain hydrocarbons comprised of benzene, toluene, ethylbenzene, and xylenes (BTEX) have been consistently detected in certain monitoring wells at the site (EIC, 2011 – VIRP). The BTEX analytical results monitored for the period from December 1998 through April 2015 are presented in Table 2-1.

As discussed in the revised VIRP, EIC determined that three well-defined dissolved BTEX plumes were identified in 1996. The first plume was located within the same foot-print as the

current PCE plume. The second BTEX plume, located to the west of the first plume, was separated by a distance of more than 1,000 feet. A smaller third BTEX plume was located approximately 400 feet to the northwest of the second plume. EIC determined that the sources these plumes were not apparent from the available documents (EIC, 2011).

No documentation is available about the source of the BTEX release in the first plume area located beneath Tank Farm No. 2. EIC also determined that on January 12, 1999 a major diesel release took place from AST 22 in the western end of Tank Farm No. 4 that resulted in light non-aqueous phase liquid (LNAPL) accumulations near the second and third plumes (EIC, 2011). EIC is currently performing remediation of diesel light non-aqueous phase liquid hydrocarbon (LNAPL) within the southern LNAPL plume of this area in compliance with EPD requirements specified by the Watershed Protection Branch. Considering the groundwater flow direction, however, it is apparent that the BTEX plume located within the PCE foot-print is not related to the diesel LNAPL plumes at the site.

## 2.3 CONSTITUENTS OF CONCERN

As noted in Section 2.1, the COCs, within the area of the CVOC plume is comprised of dissolved phase CVOCs and VOCs. The CVOCs consists of PCE and its daughter products TCE, DCE, and VC. The dissolved-phase VOCs consists of benzene, toluene, ethylbenzene, and xylenes (BTEX).

As the COCs migrate through a multimedia environment, natural attenuation processes sequentially replace chlorine atoms that are attached to the dissolved PCE, with carbon atoms – thereby producing the aforementioned daughter products. As the attenuation processes continue, the daughter products are ultimately transformed to carbon dioxide and water. VOC, comprised of BTEX constituents, also attenuate more readily both aerobically and anaerobically resulting in carbon dioxide and water.

SECTION

3

# 3.0 COC DELINEATION

Characterizing the extent of a release entails a definition of the horizontal and vertical extent of the COCs in a multimedia environment. Utilizing historical documentation, current sampling records, and plume maps, EIC has compiled the following subsections.

## 3.1 SOIL DELINEATION

Soil contamination resulting from the PCE release was delineated during the period from 2001 to 2006. A review of the analytical results from this activity indicated that BTEX concentrations were also delineated within the area impacted by PCE release. As discussed in Section 3.1 of the Revised VIRP, sidewall confirmatory soil samples from excavations within the PCE footprint confirmed that RRS standards for both CVOCs and BTEX concentrations in soil were achieved in 2006 (EIC, 2011).

## 3.2 GROUNDWATER DELINEATION

Both CVOCs and other VOCs have been present at the site for several decades. As discussed in Section 2.3, however, these COCs have undergone natural attenuation processes. Nevertheless, additional pockets of COCs discovered after the VIRP implementation has expanded the view port of the original COC foot print. The following sections define the horizontal and vertical extent of the plumes.

### 3.2.1 CVOC

Prior to the initiation of the VIRP, EIC observed that a number of monitoring wells were historically not sampled since they were either destroyed or were not located. Since initiating the VIRP, EIC has gradually rehabilitated or replaced a number of monitoring wells. The analytical data from subsequent sampling of these additional wells in conjunction with data from routinely sampled wells has further expanded the baseline CVOC foot-print. Table 2-1 tabulates the current and historical analytical groundwater data for each well. Figures 3-1 through 3-4 illustrate

the horizontal extent of the dissolved CVOC plumes, from the latest sampling event of April 2015.

Relative to the baseline CVOC footprint defined in the VIRP, it is apparent that the horizontal extent of the CVOC plume is well defined in all directions except to the south beyond the VOPAK property line. This was substantiated by the EPD in the April 2014 comments letter to the VOPAK Savannah Terminal in line item number five.

The property beyond the VOPAK southeastern fence-line is currently occupied by GAF Materials Corporation (GAF). During December 2013, EIC installed a new monitoring well, MW-37, on GAF property to delineate the southern extent of the CVOC plume. From subsequent groundwater sampling EIC performed at MW-37, however, EIC determined that the extent of the CVOC plume extended further southward than had previously been determined prior to the installation of MW-37.

As further discussed in Section 6.3, EIC has determined that CVOC concentrations at MW-37 have been decreasing or stable since EIC began sampling this well in January 2014. This indicates that natural attenuation is progressively occurring near the trailing up-gradient edge of the CVOC plume.

It is noteworthy, that there are reported PCE releases at off-site locations along Brampton Road - up-gradient of the VOPAK terminal - which may contribute to the concentrations found in MW-37. The shallow water table present in the GAF-VOPAK site boundary may intersect utility lines that may act as a preferential pathway for groundwater flow from hydraulically up-gradient sources. EIC is currently conducting research into the effect of utilities and stormwater features on groundwater flow towards the site along Brampton Road. In addition to this research, EIC will continue to monitor the trend of CVOC concentrations near the vicinity of MW-37.

As of April 2015, the dissolved CVOC concentrations of PCE, TCE, 1,2-DCE, and VC currently meet the established RRSs specified in the 2011 Revised VIRP Application in all but twelve monitoring wells: IW-1R, IW-18, LAW-PZ-8R, PAN-MW-9, MW-16, MW-24R, MW-26R, MW-27, MW-29, MW-32, MW-33, and MW-37. Referring to the analytical results table, Table 2-1, the following observations of groundwater RRS exceedances that occurred during the last sampling event in April 2015 are noted:

- Concentrations in 8 wells (IW-1R, IW-18, LAW-PZ-8R, MW-26R, MW-28, MW-29, MW-37, and PAN-MW-9) currently exceed the RRS for PCE. The PCE concentration at IW-1R was the highest of the sampled wells at 310 ppb.
- Concentrations in 2 wells (IW-1R and MW-29) currently exceed the RRS for TCE. The TCE concentration at IW-1R is the highest of the wells sampled at 150 ppb.

- Concentrations in 4 wells (IW-1R, LAW-PZ-8R, MW-29, and PAN MW-9) currently exceed the RRS for DCE. The DCE concentration at IW-1R is the highest of the sampled wells at 9,900 ppb.
- Concentrations in 12 wells (IW-1R, IW-18, LAW-PZ-8R, MW-16, MW-24R, MW-26R, MW-27, MW-28, MW-29, MW-33, MW-37, and PAN-MW-9) currently exceed the RRS for VC. The highest VC concentration was found at IW-18 at 830 ppb.

### 3.2.2 VOC

Figures 3-5 through 3-8 illustrate the current horizontal extent of the BTEX COC concentrations as of the April 2015 sampling event based on the groundwater delineation concentrations listed in Table 2-1. Similarly to the dissolved CVOCs, the dissolved BTEX plume has substantially reduced in size, particularly near the vicinity of MW-33, since the implementation of the VIRP at the site. VOPAK is continuing to evaluate the horizontal extent of the dissolved BTEX plumes, in the area to the west of the PCE plume, under a separate program regulated by the EPD's Watershed Protection Branch.

As of April 2015, it is apparent that the BTEX plume appears to be fully delineated and is reducing at steady rates over time in both the south and north plume areas. In particular, toluene concentrations have remained below RRS at the site since October 2011 and below delineation standards since April 2012. Referring to the analytical results table, Table 2-1, the following observations of groundwater RRS exceedances are noted:

- Concentrations in 5 wells (IW-1R, IW-18, LAW-PZ-8R, MW-26R, and MW-29) currently exceed the RRS for Benzene. The Benzene concentration at LAW-PZ-8R is the highest of the sampled wells at 1,100 ppb.
- Since the first VIRP sampling event in October 2011, Toluene has not exceeded RRS concentrations at any of the sampled monitoring wells. The Toluene concentration at IW-1R is the highest detected concentration of the sampled wells at 260 ppb.
- Concentrations in 4 wells (IW-1R, LAW-PZ-8R, MW-26R, and MW-29) currently exceed the RRS for Ethylbenzene. The Ethylbenzene concentration in LAW-PZ-8R is the highest of the sampled wells at 6,900 ppb.
- Concentrations in 3 wells (IW-1R, LAW-PZ-8R, and MW-26R) currently exceed the RRS for Total Xylenes. The highest Total Xylene concentration was found at LAW-PZ-8R at 87,000 ppb.

### 3.2.3 Vertical Delineation

Based on the groundwater sampling data presented in the third, fourth, and fifth VIRP Semi-Annual Progress Reports, EPD concurred that vertical delineation is complete (EPD, 2014).

## 3.3 SOIL VAPOR

As discussed in Section 3.1, VOPAK removed all contaminated soils to below RRS levels. Also, as the groundwater is relatively shallow and the dissolved COC concentrations are relatively low, VOPAK does not anticipate residual contamination in soils to be persistent at the site. The COC footprint is primarily within a tank farm not designed for continuous human occupancy. Consequently, vapor intrusion into buildings from the COCs is not a potential area of concern. VOPAK, however, is preparing to conduct a vapor exposure survey to determine potential impacts to construction workers.

## 3.4 SEDIMENT

The original CVOC release was contained within Tank Farm No. 2. As such, VOPAK does not anticipate CVOC contamination in drainage sediments outside the tank farm. VOPAK will, however, conduct sampling in areas where the tank farm spill containment dams discharge into stormwater conveyance systems.

## 3.5 SURFACE WATER

The Savannah River is the nearest surface water body at the site. Since the original release was contained and soil contamination was removed from the tank farm, the COCs are not known to have impacted surface water. Also, as of April 2015, the COC plume in groundwater within the CVOC footprint is stable and appears to been rapidly attenuating. Furthermore, as indicated by a sharp decrease in COC concentrations at well MW-32 between October 2014 and April 2015, the leading edge of the COC plume appears to be rapidly receding up-gradient and away from the Savannah River. As such, VOPAK does not anticipate potential impact of COCs into the Savannah River.

SECTION

4

# 4.0 FATE AND TRANSPORT

The main purpose of determining potential exposure pathways is to assess the migration potential of the released COCs in a multimedia setting. Based on such an assessment, it is possible to establish potential exposure levels, critical in establishing risk-based screening and cleanup goals.

Although the COCs migrate through various pathways, they are continually subject to various biotic and abiotic attenuation processes. At a minimum, the COCs will be subject to the following mechanisms:

- Physical separation of released product into gas and other states of matter due to sorption, solubility and other equilibrium reactions.
- Advection, referring to bulk movement of immiscible liquid
- Dispersion, involving horizontal and vertical spreading of partitioned constituents.
- Diffusion, consisting of spreading from concentration gradients.
- Biodegradation by native microorganisms along the migration pathway.
- Other biotic, abiotic, and cometabolic attenuation processes that reduce the concentrations with time and distance.

The PCE release was remediated upon discovery and has not been stored at the site since 1975. According to the 2005 CAP, there are two main transport mechanisms of potential exposure occurring at the site (ERM, 2005). These included leachate from contaminated soils that act as source material and transport of leachate in the groundwater medium as dissolved COCs. However, leachate is no longer a concern at the VOPAK site, because the contaminated soil was excavated in 2006 (EPD, 2006). Since groundwater is relatively shallow, the transport of residual leachate in the form of dissolved COCs is the primary source of concern. During transport through various exposure pathways, the dissolved COCs are also subject to the aforementioned attenuation mechanisms such as advection, dispersion, diffusion, and biodegradation.

## 4.1 MIGRATION POTENTIAL

As discussed in the preceding subsection and from multiple sampling events, it is apparent that dissolved CVOCs are the primary COCs. The following sections outline both the CVOCs and VOCs that are currently under investigation.

### 4.1.1 CVOC Migration Potential

Typically, dissolved contaminants tend to move with the groundwater flow. Consequently, the peak plume would be subject to a migration consistent with seepage velocity. Referring to the contoured COC plume maps, it is apparent that the horizontal extent of all COCs have decreased and are confined within the baseline PCE foot-print.

### 4.1.2 VOC Migration Potential

VOCs primarily composed of BTEX constituents are present within the PCE plume footprint. As such, they would likely be subject to similar hydrodynamic mechanisms as those that affect the PCE plume.

## 4.2 UTILITY TRENCHES AS MIGRATION PATHWAYS

As discussed in Section 1.3.3, sub-grade structures can influence groundwater flow. Preferential pathways along pipeline utility trenches that extend below the groundwater surface, for example, could potentially allow COC's from up-gradient offsite sources to migrate onto the VOPAK property. Future analysis will determine if these sub-grade structures effect the migration of CVOC and VOC plumes from off-site sources.

Sub-grade structures both on and down-gradient of VOPAK property could also influence groundwater flow. Based on a review of historic as-built drawings and from field observations, EIC has determined that a west-to-east oriented stormwater conveyance pipe is located approximately 10 feet north of MW-32. As discussed in Section 1.3.3, this stormwater conveyance pipe may impede the migration of contaminants to the north of and down-gradient of this feature. EIC will continue to evaluate the effect of this stormwater conveyance pipe regarding contaminant migration.

## 4.3 OTHER EXPOSURE PATHWAYS

As discussed in Section 4.1, groundwater is the primary pathway for the migration of COCs at this site. Figure 4-1 illustrates potential pathways through which the COCs can migrate. EIC is currently evaluating the potential for migration of COC through other media such as soil vapor from dissolved COCs. In addition, EIC will evaluate the vapor intrusion potential to ensure that

terminal personnel, contactors, or other site visitors are not at risk of exposure. Based on the site background information available, it appears that there are currently no immediate or eminent threats and hazards from the released COCs at the site.

## 4.4 TIDAL INFLUENCE

Based on a long-term tidal study, presented in the Third VIRP Progress Report (EIC, 2013) EIC concluded that the groundwater within the PCE footprint was not significantly affected by tidal fluctuations within the Savannah River. In addition, EIC determined from a review of historical as-built drawings that a sheet pile wall is located hydraulically down-gradient of the PCE footprint at the Georgia Ports facility perimeter along the Savannah River. This feature appears to serve as an additional barrier for contaminant movement between the land mass and surface water. Furthermore since the COCs concentrations have remained stable and contained within the baseline COCs footprint (refer to Section 3), EIC does not believe that the COC's have a potential to migrate to surface waters.

SECTION

5

# 5.0 POTENTIAL RECEPTORS

Potential receptors are the most important drivers in establishing cleanup goals for the site. The receptors include human, ecological, natural resources, present and future land use, and down-gradient receptors.

## 5.1 HUMAN HEALTH RECEPTORS

Since all contaminated soil that exceeded the RRS was excavated in 2006, as discussed in Section 3.1, subsurface soil is neither a concern to VOPAK employees nor to construction workers at the site. Consequently, only groundwater contamination or saturated soils presents potential human exposure at the site. When addressing groundwater exposure receptors, the 2005 CAP states, "Because the site and surrounding area are served by a municipal water supply system, groundwater from the surficial aquifer is not being used for human consumption. VOPAK will also ensure that any construction works conducted within the area covering contaminated groundwater will be limited to the extent of the vadose zone. Therefore, human exposure to contaminated ground water is an unlikely exposure pathway" (ERM, 2005). However, should it become necessary for onsite workers to excavate groundwater saturated soils during construction activities, measures will be taken to monitor and to protect workers from soil vapor, contaminated groundwater, and/or saturated soil resulting from residual COCs. The CAP also states that there are no private wells within a two-mile radius of the VOPAK Terminal site.

## 5.2 ECOLOGICAL RECEPTORS

According to the 2005 CAP, the VOPAK Savannah site was reviewed by the Georgia Natural Heritage Program (GNHP) to identify potential ecological receptors that may be impacted from contamination levels at VOPAK. GNHP found no rare, imperiled, and critically imperiled plant and animal species at the site. Since the subject property is operated as an industrial facility, VOPAK does not provide habitat for plants or animals. In addition, wetlands are not of concern at the VOPAK site. According to the 2005 CAP, "With the exception of drainage ditches and other man-made depressions, no wetland-like areas were observed on the site."

## 5.3 NATURAL RESOURCES

There are no known natural resources that are affected by the monitored COCs.

## 5.4 PRESENT AND FUTURE LAND USE

The subject property is currently utilized as a non-residential facility in a heavily industrialized setting. As stated in the introductory section, VOPAK leased the property on a long-term lease. As such, the property will remain as a terminal for several decades. Upon lease expiration, the site property will continue to be utilized as non-industrial property consistent with GPA's long term plans for site redevelopment, local zoning, and deed restrictions.

## 5.5 DOWN-GRADIENT RECEPTORS

The GPA Port of Savannah container storage facility is located hydraulically down-gradient of the subject property. Groundwater samples collected from sentinel wells MW-35 and MW-36, located on GPA property and hydraulically down-gradient of the subject property indicates that COCs are well below delineation standards. As discussed in Sections 2 and 3, the COC plume is stable and hydraulically contained within the baseline COC foot-print.

SECTION

6

# 6.0 PERFORMANCE METRICS

To determine if the prevailing monitored natural attenuation (MNA)-based approach is effective in meeting the VIRP goals, EIC performed an evaluation using multiple lines of evidence. This process included an evaluation of indicator parameters, evidence of degradation products, statistical trend analysis, as well as spatial and temporal plume trends.

Depending on available data, several analytical tools are also available to establish the plume trends. As discussed in Section 1.3, however, the aquifer is anisotropic and non-homogeneous. Therefore, typical analytical tools based on Darcy's flow equations are considered to be impractical for the purposes of modeling groundwater flow and related performance metrics. EIC therefore utilized statistical as well as spatial and temporal analysis to evaluate the plume trends.

## 6.1 INDICATOR PARAMETERS

As discussed in previous semi-annual VIRP progress reports, EIC collected long-term data on indicator parameters utilizing downhole data loggers in conjunction with a tidal study. An evaluation of these results indicated that favorable site conditions were present for MNA. Downhole pH, ORP, DO, and temperature levels in representative wells were within ideal ranges indicating persistent favorable site conditions for continued attenuation.

## 6.2 EVIDENCE OF DEGRADATION PRODUCTS

Considering that PCE was the only source of CVOCs released at the site, the presence of PCE daughter products such as TCE, DCE, and Vinyl Chloride are clear evidence of natural attenuation at the site. Although the original source of the BTEX-related spill in the vicinity of Tank Farm No. 2 has not been determined, it is apparent that BTEX constituents are present and degrading over time.

## 6.3 STATISTICAL TREND ANALYSIS (CVOCS)

To determine the rate of natural attenuation and plume stability at the site for the dissolved CVOC constituents, EIC utilized a statistical trend analysis toolkit as a primary line of evidence. The toolkit was developed by Groundwater Services Inc. as a method to determine plume stability through measured groundwater concentrations of constituents over time (GSI, 2014). The Mann-Kendall trend analysis method is utilized within the toolkit and is widely accepted to be a deterministic method for plume stability analysis.

The Mann-Kendall trend analysis method is a non-parametric trend method that utilizes variance from individual trend means for each monitoring well CVOC concentration over time. Accordingly, plume stability can be analyzed by sector instead of by overall plume stability. Overall, plume stability can then be summarized by the trend analysis of each individual sector. In order to produce these trends, however, at least four independent sampling events must have been completed for each monitoring well utilized for this analysis, which restricts the use of newly installed monitoring wells.

For the purpose of defining current plume trends, EIC utilized analytical data from October 2011 to April 2015. In order to define plume trends throughout the site, EIC selected wells based on the following key factors: their location relative to the current and historical plume center line, the current and historical extent of each plume, well construction data, and available constituent concentration data. For wells where COCs were below the laboratory analysis detection limit, EIC assumed that the concentrations at those wells were at the minimum detection limit reported by the laboratory or the method detection limit (MDL). Figure 6-1a illustrates the wells selected for the CVOC trend analysis and Figure 6-1b illustrates the selected wells for the BTEX trend analysis.

As discussed in Section 2.3, VC is the last chlorinated COC daughter product from the PCE attenuation processes that ultimately transforms to carbon dioxide, water, and chloride ions. EIC therefore previously selected seven monitoring wells based on the 2014 VC plume map for the trend analysis in the 2014 SCM update. At the time of the 2014 SCM update, monitoring well MW-37, located at the trailing edge of the plume, had not been sampled enough times to be utilized in the trend analysis. However, as of the April 2015 sampling event, it now meets the requirements for the Mann-Kendall analysis tool and therefore was utilized in the trend analysis for this 2015 SCM update report.

Therefore, eight monitoring wells were selected along the plume centerline for the statistical analysis; three up-gradient wells (MW-18R, MW-34, and MW-37), three mid-gradient wells (MW-33, MW-29, and PAN-MW-9), and two down-gradient wells (MW-17R and PAN-MW-10). Figure 6-1a illustrates the location of these wells. The selected wells are tabulated from left (up-gradient) to right (down-gradient) within the GSI Mann-Kendall Toolkit table for each COC. Figures 6-2 through 6-5 illustrate the data and the trend analysis for each CVOC constituent (PCE, TCE, DCE, and VC, respectively).

### 6.3.1 PCE Statistical Trend Analysis

Figure 6-2 illustrates the PCE concentration over time for each of the eight selected wells. From this figure, it is apparent that the plume is either stable or concentrations are decreasing near the leading and trailing edges of the plume. Additionally, concentrations at the mid-gradient portion of the plume is decreasing with no apparent trend at MW-29. In summary, the PCE plume is statistically either stable or decreasing over time in the wells selected for the up-gradient, mid-gradient, and down-gradient portions of the plume.

### 6.3.2 TCE Statistical Trend Analysis

Figure 6-3 illustrates the TCE concentration over time for each of the eight selected wells. From this figure, it is apparent that the concentrations at the southern trailing edge and northern leading edge of the plume are either decreasing, stable, or have no trend. It is noteworthy, that at MW-17R there is no trend since the TCE concentration fluctuated between July 2012 and April 2013. Following the April 2013 event, however, the concentration at MW-17R has been below detection limits for TCE. Consequently, EIC believes that the TCE concentration is trending to be stable. The mid-gradient portion of the plume is similar to PCE in that the concentrations at both MW-33 and PAN-MW-9 are decreasing with a high probability and that there is no trend at MW-29. In summary the TCE plume is decreasing in concentration and remaining stable within the baseline CVOCs footprint.

### 6.3.3 DCE Statistical Trend Analysis

Figure 6-4 documents the DCE concentration trend analysis for each of the eight selected wells. From this figure, it is apparent that, much like with PCE and TCE, the leading and trailing edges of the plume are decreasing in concentration over time. Focusing on the mid-gradient portion of the plume, the concentrations at both wells MW-29 and PAN-MW-9 are increasing while they are steadily decreasing over time at MW-33. The increases in concentrations of DCE, noted at MW-29 and at PAN-MW-9, are indicative of natural attenuation at the site. As PCE and TCE degrade, DCE concentrations may continue to increase proportionately and eventually decrease, as the PCE and TCE daughter products reduce over time.

### 6.3.4 VC Statistical Trend Analysis

Figure 6-5 illustrates the concentration trend analysis for each of the eight selected wells for VC. From this figure, it is apparent that the concentrations at the leading and trailing edges of the plume are decreasing. Within the mid-gradient portion of the plume, the VC concentration at MW-33 is most likely decreasing, whereas at MW-29 and PAN-MW-9 the concentrations are increasing. This trend may continue until PCE and subsequent daughter products are attenuated. VC will eventually transform into carbon dioxide and water. In summary the concentration of the

plume is increasing in the mid-gradient portion of the plume; however, the concentrations at the leading and trailing edges of the plume are decreasing and stable.

## 6.4 STATISTICAL TREND ANALYSIS (other VOCS)

Similar to the CVOCs, monitored VOCs comprised of BTEX, are also attenuating and stable within the original PCE foot-print. As the BTEX constituents are independent COCs as opposed to daughter products of a primary constituent, such as PCE degrading to TCE, DCE, and VC, each of the BTEX constituents should decrease in concentration over time at each respective monitoring well. Since the first VIRP groundwater sampling event in October 2011, the BTEX constituent plumes have divided into two distinct north and south plumes, further discussed in Section 6.5.2. Due to the two distinct dissolved plumes, EIC has selected monitoring wells for the statistical trend analysis which reflect the center line of the BTEX plume in the up-gradient, mid-gradient, and down-gradient portions of both the north and south plumes. Additionally, some wells serve as both a down-gradient and up-gradient point when analyzing the plumes this way. EIC utilized the most extensive BTEX constituent from the latest April 2015 sampling event, Benzene, to select monitoring wells to represent the aforementioned portions of the south and north BTEX plumes.

In total, EIC has selected eight monitoring wells to represent both plumes in the statistical analysis, as illustrated in Figure 6-1b. For the southern plume EIC selected one up-gradient well (MW-18R), three mid-gradient wells (IW-18, LAW-PZ-8R, and MW-26R), and one down-gradient well (MW-33). For the northern plume, EIC selected one up-gradient well (MW-33), two mid-gradient wells (MW-29 and PAN-MW-9), and one down-gradient well (PAN-MW-10). Each of the eight monitoring wells are listed in the GSI Mann-Kendall toolkit in order from the up-gradient (southern) to the down-gradient (northern) portion of the site.

### 6.4.1 Benzene Statistical Trend Analysis

Figure 6-6 illustrates the benzene concentration over time for each of the eight selected wells. From this figure, it is apparent that the concentrations at the southern plume are decreasing near the leading and trailing edges of the plume. However, at the mid-gradient portion of the plume, concentrations are increasing at wells IW-18 and MW-26R and decreasing at well LAW-PZ-8R. It is pertinent to note that the concentration at MW-26R had been decreasing on a decreasing trend until January 2014. Additionally, LAW-PZ-8R also had an increase in concentration in October 2014, however, the concentration has since reduced to an all-time low since the beginning of the VIRP sampling program reaching 1,100 µg/L on April 2015. The concentration at IW-18 had remained stable over time throughout the VIRP program until January 2014, when it increased in concentration. It is unclear why concentrations in this area significantly increased during this time period.

From Figure 6-6, the benzene concentrations in the leading and trailing edge of the northern plume have been continuously decreasing over time. At the mid-gradient portion of the plume,

the concentration at MW-29 is likely increasing. However, the concentration near MW-29 has remained relatively stable since the first VIRP sampling event. Additionally, the concentration at PAN-MW-9 has decreased significantly over time and has been consistently below laboratory method detection limits since the first VIRP sampling event.

In summary, the areal extents of both plumes have remained stable with some increase in concentration in the up gradient plume, which may be attributed to offsite contaminants or other factors. EIC will continue to monitor the southern and northern plumes for variations in concentrations over time to confirm a natural attenuation trend for benzene.

### 6.4.2 Toluene Statistical Trend Analysis

Figure 6-7 illustrates the toluene concentration over time for each of the eight selected wells. From this figure, it is apparent that the concentrations within the southern plume are decreasing near the leading and trailing edges of the plume. The concentrations within the mid-gradient portion of the plume are either decreasing or are stable with no trend at well MW-26R.

From Figure 6-7, the toluene concentrations in the leading and trailing edge of the northern plume have been continuously decreasing over time. The concentrations within the mid-gradient portion of the plume have been decreasing over time at PAN-MW-9 and there has been no apparent trend at MW-29. In summary, both plumes have either decreased or remained stable over time.

### 6.4.3 Ethylbenzene Statistical Trend Analysis

Figure 6-8 illustrates the ethylbenzene concentration over time for each of the eight selected wells. From this figure, it is apparent that concentrations within the southern plume are decreasing near the leading and trailing edges of the plume. The concentrations within the mid-gradient portion of the plume are probably decreasing at LAW-PZ-8R, increasing at IW-18, and have no trend at MW-26R. As with Benzene, the concentrations of ethylbenzene at IW-18 had remained stable until January 2014, when concentrations in this area began to increase. Additionally, although there has been no apparent trend in concentrations at MW-26R, the concentration of 760 µg/L in April 2015 is significantly less than its peak concentration of 2,000 µg/L in January 2013. In summary, the southern ethylbenzene plume appears to be decreasing or remaining stable over time with the exception of the area of IW-18.

From Figure 6-8, the ethylbenzene concentrations in the leading and trailing edge of the northern plume have been continuously decreasing over time. The concentration within the mid-gradient portion of the plume has been decreasing over time at PAN-MW-9 yet increasing at MW-29. In summary, with the exception of the areas where wells IW-18 and MW-29 are located, both plumes have either decreased or remained stable over time.

### 6.4.4 Total Xylenes Statistical Trend Analysis

Figure 6-9 illustrates the total xylenes concentration over time for each of the eight selected wells. From this figure, it is apparent that concentrations within the southern plume are decreasing near the leading and trailing edges of the plume. There has been no trend within the mid-gradient portion of the plume, however, concentrations have been increasing at IW-18, as with Benzene and Ethylbenzene. As with Benzene, concentrations of Ethylbenzene at IW-18 had remained stable until January 2014, when concentrations in this area began to increase. In summary, the southern total xylenes plume appears to be decreasing or remaining stable over time with the exception of the area of IW-18.

From Figure 6-8, the total xylenes concentrations in the leading and trailing edge of the northern plume have been continuously decreasing over time. Concentrations within the mid-gradient portion of the plume have been decreasing over time at PAN-MW-9 yet increasing at MW-29. In summary, with the exception of the areas where wells IW-18 and MW-29 are located, both plumes have either decreased or remained stable over time.

## 6.5 SPATIAL AND TEMPORAL ANALYSIS

Spatial and temporal analysis of sequential plume maps provide a good perspective on the overall fate and transport of the COCs. In reviewing the sequential plume maps, included in the VIRP progress reports, it is apparent that both dissolved CVOCs and VOCs have been since the inception of the VIRP-based remedy.

### 6.5.1 Dissolved CVOCs

In comparing the CVOC plume maps in Figures 3-1 through 3-4 to those of the historical CVOC plume maps, it is apparent that all four monitored CVOC constituent plumes have degraded significantly in the mid-gradient portion of each constituent plume near MW-33, where their respective peaks were located during the October 2011 baseline conditions. The peak concentrations of these plumes are currently located at varying locations both up-gradient and down-gradient, as described in Section 3.2.1. Additionally, the significant degradation of the mid-gradient portion of the plume has effectively split each of the four monitored CVOC COC plumes into separate north and south plumes.

### 6.5.2 Dissolved VOCs

As discussed in the preceding sections, it is apparent that the BTEX constituents have decreased in concentration and in areal extent compared to the October 2011 baseline conditions. Additionally, as with the CVOC COCs, each of the four BTEX COCs have divided into separate north and south plumes. EIC attributes this division of the VOC plume to potential co-metabolic

degradation. It is also clear that the BTEX plumes are not migrating and continue to be centered on wells LAW-PZ-8R, PAN-MW-9, and MW-29, demonstrating stability.

SECTION

7

# 7.0 SUMMARY

The updated 2015 SCM, presented in this report, describes the site conditions based on a progressively increasing knowledgebase gained during the implementation of the VIRP. EIC will continue to calibrate the SCM based on subsequent findings.

In summary, contaminated soils that resulted from a PCE release that took place prior to 1975 have been removed. Some contamination is still present in the groundwater at the site. Dissolved BTEX constituents from an unknown release source of hydrocarbons are also present in the groundwater at the site. The groundwater contamination comprised of COCs are present in a complex anisotropic and nonhomogeneous hydrogeological setting. The horizontal and vertical extent of the COC plumes are well defined except that a small portion of the horizontal extent remains undefined in a hydraulically up-gradient location. There is no evidence of potential human health or ecological receptors that would be exposed to the COCs. Potential health effects to onsite workers from other multimedia pathways such as exposure to soil vapor or to contaminated groundwater during construction-related excavation activities is currently being evaluated.

EIC utilized multiple lines of evidence to evaluate the performance metrics of the MNA-based strategy. An evaluation of the site data indicates that field parameters are favorable for MNA-based remediation and the contaminant matrix indicates clear evidence of degradation products. Both statistical evaluation as well as spatial and temporal analysis indicate that the COC plumes are stable and are shrinking. The contaminant flux from mass reduction is also trending towards remedial goals and is sustainable. Analytical data also indicates that the percent rate of decrease in contaminant mass and areal extent was substantially higher than those of the pre-VIRP reduction rates. A further evaluation of the trends of the target contaminants will be conducted as more information is obtained from future sampling events from newly installed wells in both the up-gradient and down-gradient portions of the site.

Although MNA is clearly established and the COC attenuation rates are substantially high, EIC recognizes that the rate of degradation may still extend the cleanup time beyond the 5-year VIRP deadline. To evaluate other options that would accelerate remedial cleanup time, EIC is

evaluating contingency options based on the analytical results from the next sampling event scheduled in October 2015.

SECTION

8

# 8.0 REFERENCES


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# TABLES

# Table 1-1: October 2011 Well Gauging Data, VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # | TOC Elevation* | DTP | DTW | Groundwater Surface Elevation | Notes |
|---|---|---|---|---|---|
| (Well Diameter, in.) | ft. | ft. | ft. | ft. | |
| LAW-PZ-8R (1) | 14.02 | ND | 6.27 | 7.75 | |
| PAN-MW-9 (2) | 12.59 | ND | 6.35 | 6.24 | Well was repaired by EIC on April 6, 2011 |
| PAN-MW-10 (2) | 13.81 | ND | 10.36 | 3.45 | |
| IW-18 (1) | 10.07 | ND | 2.92 | 7.15 | |
| MW-16 (1) | 17.01 | ND | 11.34 | 5.67 | Well was repaired by EIC on April 6, 2011 |
| MW-17R (2) | 15.89 | ND | 11.96 | 3.93 | |
| MW-18R (1) | 14.12 | ND | 6.47 | 7.65 | Well was repaired by EIC on April 6, 2011 |
| MW-19 (1) | 14.91 | ND | 6.80 | 8.11 | Well was repaired by EIC on April 6, 2011 |
| MW-23 (1) | 10.39 | ND | 4.00 | 6.39 | |
| MW-24R (2) | 11.81 | ND | 5.95 | 5.86 | |
| MW-25 (1) | 14.76 | ND | 6.85 | 7.91 | Well was repaired by EIC on April 6, 2011 |
| MW-26R (1) | 10.61 | ND | 3.22 | 7.39 | |
| MW-27 (1) | 9.93 | ND | 4.87 | 5.06 | |
| MW-29 (0.75) | 11.73 | ND | 6.02 | 5.71 | |
| MW-30 (2) | 11.23 | ND | 4.95 | 6.28 | Well installed by EIC on April 6, 2011 |
| MW-31 (2) | 9.67 | ND | 5.26 | 4.41 | Well installed by EIC on April 28, 2011 |
| MW-32 (2) | 11.70 | ND | 6.47 | 5.23 | Well installed by EIC on April 25, 2011 |
| MW-33 (2) | 11.61 | ND | 5.07 | 6.54 | Well installed by EIC on April 28, 2011 |
| MW-34 (2) | 10.81 | ND | 3.41 | 7.40 | Well installed by EIC on April 26, 2011 |

NOTES:

TOC = Top of Casing

DTP = Depth to Product below TOC

DTW = Depth to Water below TOC

ND = Not Detected

* TOC elevations are from well survey conducted by EMC Engineering on June 30, 2011 and is of the NAVD 29 Datum convention

# Table 1-2: January 2013 Well Gauging Data, VOPAK Terminal Savannah
# Savannah, Georgia

| Well ID # | TOC Elevation* | DTP | DTW** | Groundwater Surface Elevation | Notes |
|---|---|---|---|---|---|
| (Well Diameter, in.) | ft. | ft. | ft. | ft. | |
| LAW-PZ-8R (1) | 14.02 | ND | 7.24 | 6.78 | Very strong HC odor and slight sewer odor. Replaced existing rusting lock on outer stick-up casing with new corrosion resistant lock. |
| PAN-MW-9 (2) | 12.59 | ND | 7.27 | 5.32 | Very strong hydrogen sulfide odor in well casing as well as inside well. Replaced existing rusting lock on outer stick-up casing with new corrosion resistant lock. |
| PAN-MW-10 (2) | 13.81 | ND | 10.46 | 3.35 | Replaced existing rusting lock on outer stick-up casing with new corrosion resistant lock. |
| MW-16 (1) | 17.01 | ND | 12.97 | 4.04 | Replaced existing rusting lock on outer stick-up casing with new corrosion resistant lock. |
| MW-17R (1) | 15.89 | ND | 11.10 | 4.79 | Replaced existing rusting lock on outer stick-up casing with new corrosion resistant lock. |
| IW-18 (1) | 10.07 | ND | 3.85 | 6.22 | Strong sewer/rotten egg odor in well. |
| MW-18R (1) | 14.12 | ND | 7.36 | 6.76 | Replaced existing rusting lock on outer stick-up casing with new corrosion resistant lock. |
| MW-19 (1) | 14.91 | ND | 7.74 | 7.17 | Replaced existing rusting lock on outer stick-up casing with new corrosion resistant lock. |
| MW-23 (1) | 10.39 | ND | 4.68 | 5.71 | |
| MW-24R (1) | 11.81 | ND | 6.59 | 5.22 | Strong sewer odor. False LNAPL reading (got one hit but no LNAPL observed on probe). Replaced existing rusting lock on outer stick-up casing with new corrosion resistant lock. |
| MW-25 (1) | 14.76 | ND | 7.64 | 7.12 | Orange colored bacteria on probe. No odor. Replaced existing rusting lock on outer stick-up casing with new corrosion resistant lock. |
| MW-26R (1) | 10.61 | ND | 4.20 | 6.41 | Mild chemical odor. Tan colored bacteria on probe. |
| MW-27 (1) | 9.93 | ND | 5.63 | 4.30 | |
| MW-29 (0.75) | 11.73 | ND | 7.06 | 4.67 | Replaced existing rusting lock on outer stick-up casing with new corrosion resistant lock. |
| MW-30 (2) | 11.23 | ND | 5.94 | 5.29 | |
| MW-31 (2) | 9.67 | ND | 5.75 | 3.92 | |
| MW-32 (2) | 11.70 | ND | 6.95 | 4.75 | |
| MW-33 (2) | 8.32 | ND | 3.25 | 5.07 | Installed corrosion resistant lock onto liquid-tight well cap. |
| MW-34 (2) | 10.81 | ND | 4.28 | 6.53 | |

NOTES:

TOC = Top of Casing

DTP = Depth to Product below TOC

DTW = Depth to Water below TOC

ND = Not Detected

*TOC elevations are well surveys conducted by EMC Engineering on June 30, 2011 and January 24, 2013, and are of the NGVD 29 Datum convention except where noted

** DTW measurements are initial prior to pumping

# Table 1-3: April 2014 Well Gauging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | TOC Elevation* (ft.) | DTP (ft.) | DTW** (ft.) | Groundwater Surface Elevation (ft.) | Notes |
|---|---|---|---|---|---|
| IW-1R (1)[*3] | NA | ND | 3.11 | NA | DTW measured 24 hours after developing well |
| LAW-PZ-8R (1) | 9.22 | ND | 2.07 | 7.15 | concrete pad was damaged but casing appeared untouched |
| PAN-MW-9 (2) | 12.59 | ND | 6.02 | 6.57 | initial withdrawal contained small amount of tan bacteria |
| PAN-MW-10 (2) | 13.81 | ND | 9.68 | 4.13 | |
| MW-14 (2) | 8.86 | ND | 6.59 | 2.27 | |
| MW-16 (1) | 17.01 | ND | 11.92 | 5.09 | large air bubbles present in intial withdrawal |
| MW-17R (1) | 15.89 | ND | 9.94 | 5.95 | initial withdrawal contained small amount of brown bacteria |
| IW-18 (1) | 10.07 | ND | 2.87 | 7.20 | 1" of standing water in vault above TOC; bailed prior to pumping |
| MW-18R (1) | 14.12 | ND | 6.10 | 8.02 | rotten odor when cap was removed |
| MW-19 (1) | 14.91 | ND | 6.36 | 8.55 | initial withdrawal contained small amount of orange bacteria |
| MW-23 (1) | 10.39 | ND | 2.96 | 7.43 | |
| MW-24R (1) | 11.81 | ND | 5.37 | 6.44 | initial withdrawal contained small amount of tan bacteria |
| MW-25 (1) | 14.76 | ND | 6.33 | 8.43 | small amount of orange bacteria on water level probe after initial |
| MW-26R (1) | 10.59 | ND | 2.59 | 8.00 | initial withdrawal contained large amount of orange bacteria |
| MW-27 (1) | 9.38 | ND | 3.72 | 5.66 | initial withdrawal contained large amount of orange bacteria |
| MW-29 (0.75) | 11.73 | ND | 5.90 | 5.83 | |
| MW-30 (2) | 11.23 | ND | 4.60 | 6.63 | |
| MW-31 (2) | 9.67 | ND | 4.62 | 5.05 | Initial withdrawal contained large amount of orange bacteria |
| MW-32 (2) | 11.70 | ND | 5.97 | 5.73 | |
| MW-33 (2) | 8.96 | ND | 1.94 | 7.02 | |
| MW-34 (2) | 10.81 | ND | 2.87 | 7.94 | Initial withdrawal contained small amount of red bacteria |
| MW-35 (2) | 10.40 | ND | 5.67 | 4.73 | 1.5" of standing water in vault above TOC; bailed prior to pumping |
| MW-36 (2) | 10.42 | ND | 6.98 | 3.44 | |
| MW-37 (2) | 11.57 | ND | 3.69 | 7.88 | Initial withdrawal contained large amounts of orange bacteria |

**Notes:**

ID = Identity

TOC = Top of Casing

NA = Not Applicable

NM = Not Measured

ND = Not Detected

* TOC elevations are based on well surveys conducted by EMC Engineering on June 30, 2011, January 24, 2013, and on January 20, 2014 and are of the NGVD 29 Datum convention.

** DTW measurements were recorded by EIC from 4/15/2014 to 4/17/2014 prior to purging using a Solinst Oil/Water Interface Meter (probe), Model:122.

**Table 2-1: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Savannah Terminal, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| IW-1R | Apr-14 | 310 | | 210 | | 13,000 | | 640 | | 130 | | 300 | | 2,900 | | 25,000 | |
| | Oct-14 | 170 | | 190 | | 11,000 | | 450 | | 130 | J | 320 | | 2,200 | | 19,000 | |
| | Apr-15 | 310 | | 150 | J | 9,900 | | 440 | | 110 | J | 260 | | 2,300 | | 17,000 | |
| IW-18 | Oct-11 | 55 | | 58 | | 4,400 | | 220 | | 36 | | 7.3 | J | 38 | | 93 | |
| | Jan-12 | 48 | J | 43 | J | 4,800 | | 230 | | 29 | J | <50 | | 33 | J | 86 | |
| | Apr-12 | 44 | J | 46 | J | 4,500 | | 210 | | 25 | J | <50 | | 24 | J | 55 | J |
| | Jul-12 | 31 | J | 33 | J | 4,500 | | 160 | | 21 | J | <50 | | 29 | J | 92 | J |
| | Oct-12 | 36 | J | 37 | J | 5,200 | | 320 | | 24 | J | <50 | | 31 | J | 110 | |
| | Jan-13 | 43 | J | 44 | J | 6,000 | | 310 | | 25 | J | <50 | | 40 | J | 170 | |
| | Apr-13 | 42 | | 37 | | 6,000 | | 410 | | 26 | | 13 | | 49 | | 270 | |
| | Jul-13 | 27 | | 31 | | 5,900 | | 770 | | 30 | | 21 | | 110 | | 1,000 | |
| | Oct-13 | 29 | | 26 | | 6,400 | | 670 | | 26 | | 12 | | 56 | | 510 | |
| | Jan-14 | 19 | | 28 | | 5,300 | | 1,900 | | 60 | | 24 | | 100 | | 810 | |
| | Apr-14 | 39 | | 34 | | 7,400 | | 1,100 | | 73 | | 35 | | 220 | | 1,900 | |
| | Oct-14 | 11 | J | 12 | J | 2,900 | | 1,500 | | 170 | | 28 | J | 130 | | 1,100 | |
| | Apr-15 | <7.4 | | 8.4 | J | 920 | | 830 | | 350 | | 14 | | 180 | | 1,300 | |
| LAW-PZ-8 / LAW-PZ-8R | Sep-97 | 50/500 | | NR | | NR | | 350/<500 | | NS | | NS | | NS | | NS | |
| | Dec-98 | <1000 | | NR | | NR | | <1,000 | | <1000 | | <1000 | | 4,300 | | 5,600 | |
| | Nov-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | <250 | | <250 | | 1,800 | | 890 | | <250 | | <250 | | 5,100 | | 59,000 | |
| | Jun-01 | <1200 | | <1200 | | 3,900 | | 670 | | 69 | J | 220 | J | 5,700 | | 64,000 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | 70 | J | 18 | J | 350 | | 120 | | 42 | J | <100 | | 3,700 | | 42,000 | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | 300 | | <100 | | 31,000 | | 1,700 | | 190 | | 1,200 | | 6,100 | | 84,000 | |
| | Dec-06 | 240 | | 72 | | 12,000 | | 630 | | 47 | | 410 | | 3,000 | | 41,000 | |
| | Mar-07 | <250 | | <250 | | 16,000 | | 1,200 | | <500 | | 760 | | 5,000 | | 70,000 | |
| | Sep-07 | 240 | | <100 | | 18,000 | | 1,200 | | 310 | | 720 | | 4,400 | | 54,000 | |
| | May-08 | 380 | | 34 | | 6,900 | | 660 | | 450 | | 330 | | 6,500 | | 94,000 | |
| | Dec-08 | 570 | | 52 | | 4,600 | | 360 | | 290 | | 290 | | 4,900 | | 55,000 | |
| | Apr-09 | 510 | | <250 | | <250 | | 560 | | 320 | | 280 | | 3,800 | | 48,000 | |
| | Sep-09 | 99 | | 34 | | 4,500 | | 470 | | 390 | | 260 | | 4,100 | | 47,000 | |
| | Apr-10 | 240 | | 49 | | 5,100 | | 480 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 150 | | 28 | J | 22,000 | | 1,500 | | 1,600 | | 1,100 | | 8,000 | | 73,000 | |
| | Jan-12 | 130 | J | <500 | | 17,000 | | 1,600 | | 1,700 | | 930 | | 7,500 | | 88,000 | |
| | Apr-12 | 99 | J | <500 | | 17,000 | | 1,800 | | 2,300 | | 1,100 | | 7,500 | | 110,000 | |
| | Jul-12 | 110 | J | <500 | | 16,000 | | 1,200 | | 2,000 | | 820 | | 7,100 | | 91,000 | |
| | Oct-12 | 83 | | <500 | | 8,000 | | 870 | | 1,300 | | 530 | | 7,300 | | 100,000 | |
| | Jan-13 | 99 | | <500 | | 13,000 | | 1,100 | | 2,000 | | 800 | | 7,500 | | 100,000 | |
| | Apr-13 | 71 | | 12 | | 9,100 | | 960 | | 1,400 | | 570 | | 7,200 | | 110,000 | |
| | Jul-13 | 30 | | 5.6 | J | 11,000 | | 990 | | 1,900 | | 650 | | 7,600 | | 110,000 | |
| | Oct-13 | 44 | | 8.5 | J | 8,500 | | 830 | | 1,500 | | 510 | | 6,800 | | 110,000 | |
| | Jan-14 | 38 | | <1.9 | | 7,200 | | 980 | | 1,200 | | 370 | | 4,000 | | 88,000 | |
| | Apr-14 | 22 | | 8.6 | J | 7,400 | | 840 | | 1,200 | | 400 | | 4,900 | | 58,000 | |
| | Oct-14 | <150 | | <130 | | 15,000 | | 1,900 | | 3,400 | | 1,100 | | 13,000 | | 180,000 | |
| | Apr-15 | <740 | | <480 | | 4,100 | | <500 | | 1,100 | | <480 | | 6,900 | | 87,000 | |

**Table 2-1: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Savannah Terminal, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-14 | Feb-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-96 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-97 | 33 | | NR | | NR | | <5 | | NS | | NS | | NS | | NS | |
| | Dec-98 | <1 | | NR | | NR | | <1 | | <1 | | <1 | | 2.9 | | 1.4 | |
| | Nov-99 | <5 | | <5 | | <2 | | <2 | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | NS | | <2 | | <2 | | <5 | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-13 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | 3.5 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.11 | | <0.33 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-15* | Feb-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-96 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-97 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-98 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Nov-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 5.3 | | 14 | | <5 | | NS | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | 12 | | 12 | | 4 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <3 | | 4 | | 3 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | 17 | | NS | | NS | | NS | | NS | |
| | Apr-11 | 69 | | 39 | | 2,200 | | 150 | | 34 | | 8.3 | J | 26 | | 86 | |

**Table 2-1: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Savannah Terminal, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-16 | Oct-00 | NS | | <1 | | 110 | | 2.2 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | 41 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | 33 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | 36 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | 12 | | 120 | | 4 | | <2 | | <2 | | <2 | | 7 | |
| | Dec-06 | <2 | | 24 | | 120 | | 8 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | 9 | | 71 | | 320 | | 25 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | 260 | | 63 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | 61 | | 53 | | <2 | | <2 | | 6 | | <5 | |
| | Dec-08 | <5 | | <5 | | 60 | | 49 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | 78 | | 82 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | 4.1 | | 78 | | 69 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | <5 | | <5 | | 89 | | 83 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.57 | J | 0.66 | J | 160 | | 77 | | 0.52 | J | <1 | | 0.3 | J | 1.9 | J |
| | Jan-12 | 0.67 | J | 0.94 | J | 130 | | 85 | | 0.44 | J | 0.42 | J | 0.12 | J | 1.3 | J |
| | Apr-12 | <1 | | 0.94 | J | 140 | | 200 | | 0.74 | J | 0.33 | J | 1.7 | | 21 | |
| | Jul-12 | 0.28 | J | 0.63 | J | 87 | | 48 | | 0.41 | J | <1 | | 0.23 | J | 1.1 | J |
| | Oct-12 | <2 | | 0.37 | J | 200 | | 94 | | <2 | | <2 | | 0.52 | J | 1.7 | J |
| | Jan-13 | <1 | | <1 | | 120 | | 78 | | 0.27 | J | <1 | | 0.49 | J | 1.4 | J |
| | Apr-13 | <0.22 | | 0.6 | J | 140 | | 85 | | 0.42 | J | 0.24 | J | 2.1 | | 8 | |
| | Jul-13 | <0.16 | | <0.19 | | 320 | | 100 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | 0.58 | J | 1.1 | | 110 | | 86 | | 0.83 | | <0.14 | | 1.2 | | 5.6 | |
| | Jan-14 | <0.16 | | <0.19 | | 170 | | 180 | | 1.5 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | 1.1 | | 310 | | 160 | | 2 | | <0.14 | | 8.3 | | 4.1 | |
| | Oct-14 | <0.15 | | 0.34 | J | 130 | | 81 | | 1.3 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <1.5 | | 6 | | 210 | | 120 | | 2.7 | | <0.96 | | 3.4 | | 1.3 | J |
| MW-17/ MW-17R | Oct-00 | NS | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Jul-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-04 | <5 | | <5 | | <5 | | <2 | | <10 | | 5 | | <5 | | <5 | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <5 | | <5 | | <5 | | <2 | | <10 | | 8 | | <5 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | 7 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | 4 | | 27 | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | 0.2 | J | <1 | | 0.39 | J | <1 | | 0.55 | J | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | 0.44 | J | 0.35 | J | 1.5 | | 0.65 | J |
| | Apr-12 | <1 | | 0.13 | J | 2.8 | | 0.19 | J | 0.48 | J | <1 | | 0.7 | J | 0.22 | J |
| | Jul-12 | 1.3 | | 1.2 | | 9.2 | | <1 | | 0.29 | J | <1 | | 0.62 | J | 0.28 | J |
| | Oct-12 | 16 | | 5.2 | | 13 | | <1 | | <1 | | <1 | | 1.4 | | 0.5 | J |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.84 | J | <2 | |
| | Apr-13 | 4.1 | | 1.3 | | 1.6 | | <0.30 | | 0.18 | J | <0.15 | | 1.2 | | 0.33 | J |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 1.5 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 0.83 | J | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 0.95 | J | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | 0.66 | J | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | 0.79 | J | <0.23 | |

**Table 2-1: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Savannah Terminal, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-18/ MW18R | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **2** | | **22** | |
| | Mar-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Jul-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | **2** | | **16** | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-19 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | **0.22** | **J** | <1 | | <1 | | <1 | | **1.7** | | **12** | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | **0.14** | **J** | <0.30 | | <0.18 | | <0.15 | | **0.21** | **J** | **0.41** | **J** |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Table 2-1: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Savannah Terminal, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-20 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-11 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-15 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| MW-21 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | 120 | | **1.8** | | <1 | | <1 | | <1 | | <1 | | **4.2** | | **38** | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Aug-05 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Jun-06 | 12 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <5 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-15 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |

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**VOPAK Savannah Terminal, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-22/ MW-22R | Jun-01 | 8,700 | | 900 | | 3,100 | | 380 | | <500 | | <500 | | 600 | | 83 | J |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 1,000 | | 480 | | 930 | | <100 | | <250 | | <250 | | <250 | | <500 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 7,600 | | 700 | | 2,300 | | 210 | | <10 | | <5 | | 2,300 | | <50 | |
| | Jul-04 | 7,000 | | 71 | | 310 | | 36 | | <10 | | <5 | | 14 | | <22 | |
| | Sep-04 | 7,200 | | <250 | | 610 | | <100 | | <500 | | <250 | | <250 | | <250 | |
| | May-05 | 5,700 | | 220 | | 840 | | <100 | | <100 | | <100 | | <100 | | <250 | |
| | Aug-05 | 2,400 | | 47 | | 240 | | 37 | | <5 | | <5 | | <5 | | 10 | |
| | Jun-06 | 680 | | 71 | | 3,300 | | 140 | | <250 | | <130 | | 150 | | <130 | |
| | Oct-06 | 2,600 | | <130 | | 490 | | 89 | | <250 | | <130 | | <130 | | <130 | |
| | Dec-06 | 3,200 | | 60 | | 480 | | 100 | | <2 | | <2 | | 20 | | 18 | |
| | Mar-07 | 3,400 | | <130 | | 730 | | 100 | | <250 | | <130 | | <130 | | <130 | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | 6,900 | | 89 | | 930 | | 270 | | 2 | | <2 | | 10 | | 26 | |
| | Dec-08 | 4,400 | | 100 | | 2,100 | | 300 | | <5 | | <5 | | 7 | | 12 | |
| | Apr-09 | 1,900 | | 88 | | 1,700 | | 280 | | <5 | | <5 | | 11 | | 22 | |
| | Sep-09 | 3,000 | | 88 | | 1,000 | | 220 | | 4.1 | | <2 | | 9.2 | | 12 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jul-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jul-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-15 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| MW-23 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 760 | | 2,300 | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <2 | | <2 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | 0.23 | J | 0.42 | J |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Table 2-1: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Savannah Terminal, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-24/ MW-24R | Nov-01 | 400 | | 95 | | 240 | | 50 | | <12 | | <12 | | <12 | | <25 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 97 | | 51 | | 100 | | 22 | | 52 | | <10 | | <10 | | <20 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | 1,300 | | 180 | | 500 | | 49 | | 11 | | <5 | | 5 | | 28 | |
| | Oct-06 | 580 | | 150 | | 590 | | 33 | | <20 | | <20 | | <20 | | <50 | |
| | Dec-06 | 1,110 | | 680 | | 990 | | 68 | | 13 | | <2 | | 10 | | 35 | |
| | Mar-07 | 130 | | 200 | | 770 | | 17 | | 14 | | <5 | | <5 | | 12 | |
| | Sep-07 | 62 | | 37 | | 820 | | 20 | | 12 | | <2 | | 2 | | 7 | |
| | May-08 | 130 | | 24 | | 82 | | 9 | | 16 | | <2 | | <2 | | 11 | |
| | Dec-08 | 110 | | 25 | | 340 | | 12 | | 15 | | <5 | | <5 | | <5 | |
| | Apr-09 | 93 | | 22 | | 240 | | 18 | | 12 | | <5 | | <5 | | <5 | |
| | Sep-09 | 57 | | 20 | | 120 | | 47 | | 10 | | <2 | | <2 | | <5 | |
| | Apr-10 | 35 | | 10 | | 150 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 12 | | 5.8 | | 180 | | 25 | | 10 | | <5 | | 1.4 | J | 4.2 | J |
| | Jan-12 | 7.5 | | 3.9 | | 160 | | 16 | | 8.2 | | 0.4 | J | 0.98 | J | 11 | |
| | Apr-12 | 6.8 | | 4.7 | | 230 | | 7.4 | | 11 | | 1.8 | J | 16 | | 230 | |
| | Jul-12 | 6.7 | | 3.6 | | 220 | | 9.2 | | 7.6 | | <2 | | <2 | | <4 | |
| | Oct-12 | 6 | | 3.4 | J | 320 | | 54 | | 8.1 | | <5 | | 3.4 | J | 20 | |
| | Jan-13 | 3 | J | 2.1 | J | 410 | | 71 | | 6.9 | | <5 | | 4 | J | 22 | |
| | Apr-13 | 3.5 | | 2.8 | | 540 | | 64 | | 6.2 | | 0.71 | J | 4.4 | | 26 | |
| | Jul-13 | 5.3 | | 5.4 | | 800 | | 140 | | 8.2 | | 1.2 | | 11 | | 58 | |
| | Oct-13 | 3.3 | | 2.2 | | 450 | | 43 | | 6 | | 0.41 | J | 0.79 | J | 6.3 | |
| | Jan-14 | 2.6 | | 4.4 | | 570 | | <0.19 | | 6.1 | | <0.14 | | <0.19 | | 2.7 | |
| | Apr-14 | 2 | | 1.8 | | 500 | | <0.19 | | 5.8 | | 0.48 | J | 0.45 | J | 2 | |
| | Oct-14 | 1.7 | J | <0.65 | | 360 | | 38 | | 5.6 | | <1.7 | | 1.3 | J | <1.0 | |
| | Apr-15 | <3.7 | | <2.4 | | 300 | | 16 | | 3.9 | J | <2.4 | | <1.7 | | <1.2 | |
| MW-25 | Nov-01 | <5 | | <5 | | <5 | | <10 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.72 | J | 8.7 | |
| | Jan-12 | <1 | | <1 | | 0.21 | J | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | 0.27 | J | <1 | | 0.57 | J | <1 | | <1 | | <1 | | 3.2 | | 20 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Table 2-1: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Savannah Terminal, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-26/ MW-26R | Nov-01 | 2,400 | | 100 | | 1,100 | | 210 | | <100 | | <100 | | <100 | | <200 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 300 | | 14 | | 180 | | 38 | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | 120 | | 8 | | 120 | | 28 | | 17 | | <2 | | <2 | | <5 | |
| | Aug-05 | 420 | | 22 | | 210 | | 47 | | 35 | | <5 | | <5 | | 6 | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | <2 | | 2 | | 2,800 | | 330 | | 16 | | 45 | | 380 | | 2,700 | |
| | Dec-06 | 6 | | 4 | | 5,100 | | 560 | | 20 | | 83 | | 1,500 | | 13,000 | |
| | Mar-07 | <5 | | <5 | | 2,600 | | 580 | | 17 | | 45 | | 1,100 | | 6,900 | |
| | Sep-07 | <2 | | <2 | | 240 | | 240 | | 9 | | 4 | | 71 | | 250 | |
| | May-08 | 5 | | <2 | | 410 | | 83 | | 12 | | 10 | | 260 | | 1,300 | |
| | Dec-08 | <5 | | <5 | | 14 | | 19 | | <5 | | 5 | | 23 | | 120 | |
| | Apr-09 | <5 | | <5 | | 200 | | 76 | | 14 | | 21 | | 310 | | 2,700 | |
| | Sep-09 | <2. | | <2 | | 150 | | 62 | | 4.4 | | 3.8 | | 63 | | 380 | |
| | Apr-10 | <5 | | <5 | | 93 | | 48 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | 0.89 | J | 43 | | 34 | | 7.2 | | 1.4 | | 35 | | 110 | |
| | Jan-12 | <25 | | 5 | J | 390 | | 130 | | 29 | | 59 | | 650 | | 6,100 | |
| | Apr-12 | <25 | | 5.5 | J | 350 | | 140 | | 22 | J | 54 | | 610 | | 7,200 | |
| | Jul-12 | <5 | | <5 | | 43 | | 40 | | 21 | | 15 | | 270 | | 2,000 | |
| | Oct-12 | <50 | | <50 | | 210 | | 63 | | 35 | J | 37 | J | 390 | | 4,200 | |
| | Jan-13 | 27 | J | 21 | J | 1,500 | | 220 | | 64 | | 140 | | 2,000 | | 2,400 | |
| | Apr-13 | 5 | J | 3.2 | J | 340 | | 94 | | 56 | | 40 | | 650 | | 8,300 | |
| | Jul-13 | <1.6 | | <1.9 | | 19 | | 12 | | 75 | | 18 | | 450 | | 5,500 | |
| | Oct-13 | <1.6 | | <1.9 | | 150 | | 53 | | 33 | | 10 | J | 160 | | 2,300 | |
| | Jan-14 | <1.6 | | <1.9 | | 68 | | <1.9 | | 110 | | 11 | | 200 | | 7,200 | |
| | Apr-14 | 44 | | <1.9 | | 16 | | 11 | | 110 | | <1.4 | | 64 | | 5,600 | |
| | Oct-14 | <0.75 | | 4.1 | J | 7.2 | | 7.3 | | 19 | | <1.1 | | 25 | | 400 | |
| | Apr-15 | <74 | | <48 | | <41 | | <50 | | 180 | | 63 | J | 760 | | 11,000 | |
| MW-27 | Nov-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | 3 | | 2 | | 350 | | 5 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | 40 | | 22 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | 92 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.86 | J | 1.6 | J | 8.3 | | 200 | | 0.63 | J | <2 | | 0.29 | J | 3.4 | J |
| | Jan-12 | 0.17 | J | 0.42 | J | 1.8 | | 19 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | 0.26 | J | 0.4 | J | 1.7 | | 15 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | 0.26 | J | 1.4 | | 21 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | 0.33 | J | 1.1 | | 16 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | 0.36 | J | 0.88 | J | 2.1 | | 20 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | 0.33 | J | 1 | J | 6.5 | | <0.18 | | <0.15 | | 0.35 | J | 3.9 | |
| | Jul-13 | <0.16 | | 0.8 | J | 2.6 | | 18 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | 2.9 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | 2.1 | | 13 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | 1.9 | | 9.7 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 2.2 | | 12 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | 0.79 | J | 4.7 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Table 2-1: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Savannah Terminal, Savannah, Georgia**

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-28 | Oct-02 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | 2.3 | | **0.44** | **J** | **14** | | 3.4 | | **0.82** | **J** | <0.33 | | **0.27** | **J** | **2.2** | |
| | Apr-15 | 5.8 | | **1.1** | | **33** | | 8.1 | | **1.6** | | <0.48 | | <0.33 | | <0.23 | |
| MW-29 | Oct-06 | 1,500 | | 340 | | 1,500 | | 24 | | **2** | | <2 | | **67** | | **51** | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | 2,300 | | 320 | | 1,700 | | 64 | | **3** | | <2 | | **63** | | **57** | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | 1,100 | | 320 | | 2,100 | | 74 | | <5 | | <5 | | **35** | | **98** | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | 500 | | 300 | | 3,200 | | 150 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 180 | | 72 | | 2,300 | | 220 | | <20 | | <20 | | 1,300 | | 2,800 | |
| | Jan-12 | 200 | | 77 | | 2,500 | | 280 | | <20 | | <20 | | 1,100 | | 2,500 | |
| | Apr-12 | 100 | | 62 | | 1,900 | | 200 | | **6.3** | **J** | **7.6** | **J** | 950 | | 2,100 | |
| | Jul-12 | 110 | | 54 | | 1,900 | | 230 | | **6.8** | **J** | <20 | | **510** | | 1,000 | |
| | Oct-12 | 71 | | 44 | | 1,600 | | 110 | | <20 | | <20 | | **200** | | **370** | |
| | Jan-13 | 110 | | 41 | | 1,300 | | 140 | | **6** | **J** | **6.7** | **J** | 1,300 | | 2,900 | |
| | Apr-13 | 130 | | 76 | | 2,500 | | 490 | | 11 | | **4.1** | | 750 | | 1,500 | |
| | Jul-13 | 120 | | 69 | | 2,800 | | 460 | | 15 | | **5.4** | **J** | 800 | | 1,700 | |
| | Oct-13 | 140 | | 66 | | 6,100 | | 760 | | 20 | | **10** | **J** | 1,200 | | 2,500 | |
| | Jan-14 | 330 | | 110 | | 5,900 | | 790 | | 23 | | **20** | | 3,100 | | 6,600 | |
| | Apr-14 | 200 | | 150 | | 8,400 | | 880 | | 25 | | **21** | | 1,900 | | 4,000 | |
| | Oct-14 | 74 | | 55 | | 4,300 | | 660 | | <13 | | **21** | **J** | 1,800 | | 4,300 | |
| | Apr-15 | 160 | | 90 | | 5,900 | | 790 | | <22 | | **25** | **J** | 3,300 | | 7,300 | |
| MW-30 | Oct-11 | 0.51 | **J** | **0.55** | **J** | **13** | | **2.9** | | **0.55** | **J** | <1 | | <1 | | <2 | |
| | Jan-12 | 0.18 | **J** | **0.46** | **J** | **13** | | 3.1 | | **0.47** | **J** | <1 | | <1 | | **0.58** | **J** |
| | Apr-12 | 0.19 | **J** | **0.43** | **J** | **9.4** | | **2.6** | | **0.44** | **J** | <1 | | <1 | | <2 | |
| | Jul-12 | 0.45 | **J** | **0.45** | **J** | **7.7** | | **2.4** | | **0.43** | **J** | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | **0.4** | **J** | **11** | | 3.6 | | **0.54** | **J** | <1 | | <1 | | <2 | |
| | Jan-13 | 0.2 | **J** | **0.38** | **J** | **9.4** | | 3.1 | | **0.54** | **J** | <1 | | <1 | | <2 | |
| | Apr-13 | 0.32 | **J** | **0.32** | **J** | **7.8** | | 4.5 | | **0.85** | **J** | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | **11** | | <0.19 | | **1.8** | | <0.14 | | <0.19 | | **2.6** | |
| | Oct-13 | <0.16 | | <0.19 | | **6.2** | | **2.5** | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | **5.6** | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | 0.4 | **J** | **0.4** | **J** | **5** | | <0.19 | | **0.48** | **J** | <0.14 | | **1** | **J** | **2.2** | |
| | Oct-14 | 0.39 | **J** | <0.13 | | **2.3** | | **1.2** | | **0.35** | **J** | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | **1.7** | | **0.88** | **J** | <0.43 | | <0.48 | | <0.33 | | **1.3** | |
| MW-31 | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **0.24** | **J** |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **0.21** | **J** |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **0.33** | **J** | **2.4** | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | **0.43** | **J** | <0.18 | | <0.25 | | <0.33 | | **0.33** | **J** | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Table 2-1: Concentrations of CVOCs and VOCs in Groundwater**
**VOPAK Savannah Terminal, Savannah, Georgia**

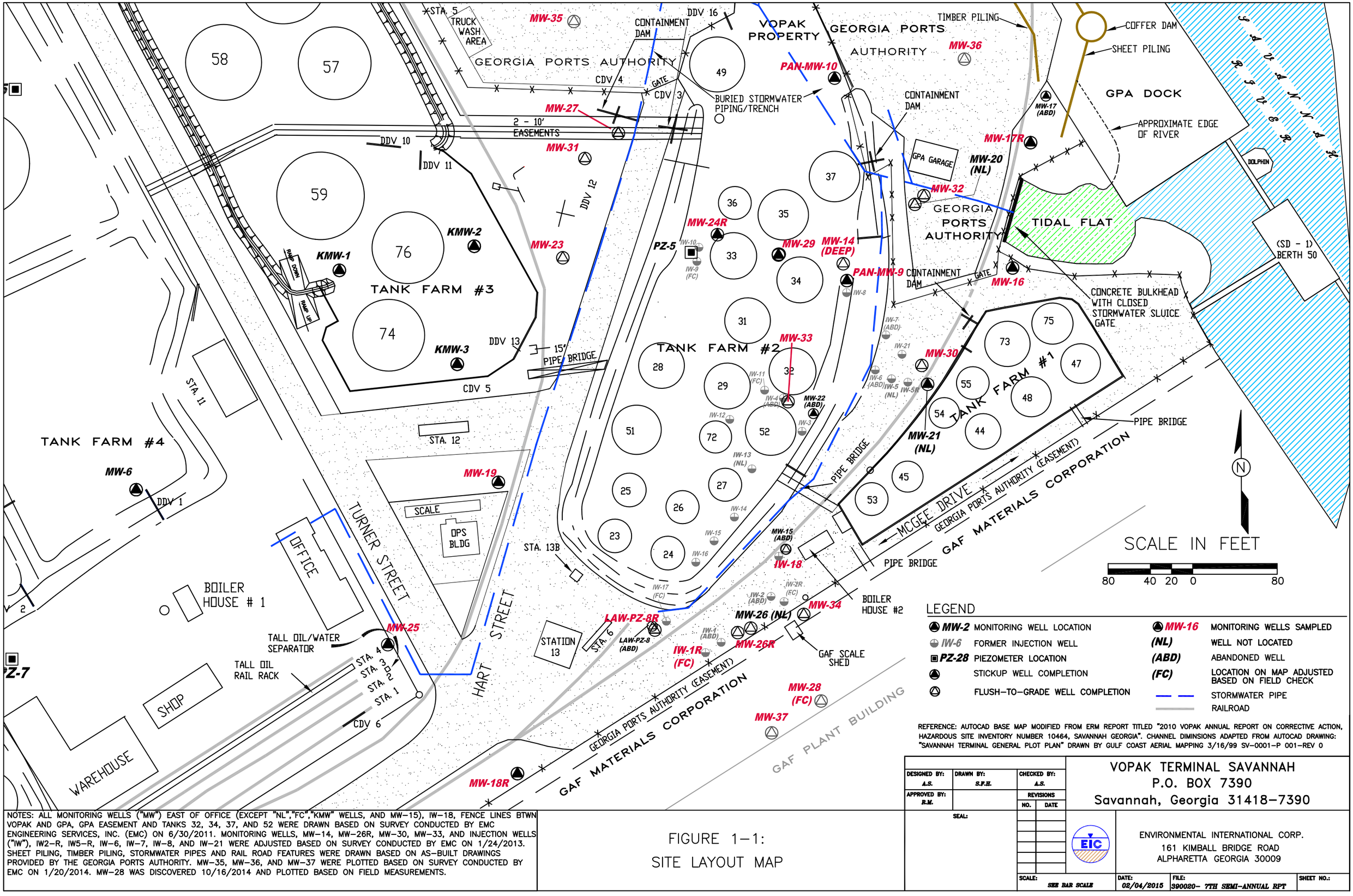
| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-32 | Oct-11 | 7.2 | J | 11 | | 1,500 | | 35 | | <10 | | <10 | | 31 | | 35 | |
| | Jan-12 | 130 | | 61 | | 2,100 | | 53 | | <20 | | <20 | | 45 | | 56 | |
| | Apr-12 | 210 | | 100 | | 2,000 | | 54 | | <20 | | <20 | | 28 | | 22 | J |
| | Jul-12 | 200 | | 140 | | 1,100 | | 40 | | <10 | | <10 | | 17 | | 16 | J |
| | Oct-12 | 1,700 | | 470 | | 1,700 | | 110 | | <10 | | <10 | | 54 | | 26 | |
| | Jan-13 | 2,800 | | 530 | | 940 | | 93 | | <20 | | <20 | | 61 | | 27 | J |
| | Apr-13 | 2,800 | | 520 | | 980 | | 120 | | 0.94 | J | 2.8 | | 75 | | 42 | |
| | Jul-13 | 2,200 | | 570 | | 750 | | 96 | | <1.6 | | <1.4 | | 66 | | 40 | |
| | Oct-13 | 6,200 | | 1,300 | | 1,600 | | 220 | | <1.6 | | 7.2 | J | 160 | | 110 | |
| | Jan-14 | 6,500 | | 1,300 | | 1,600 | | 230 | | <1.6 | | <1.4 | | 180 | | 170 | |
| | Apr-14 | 6,000 | | 1,500 | | 2,200 | | 230 | | <1.6 | | <1.4 | | 200 | | 130 | |
| | Oct-14 | 1,900 | | 680 | | 1,100 | | 100 | | 8.3 | J | <6.6 | | 36 | | 29 | J |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.42 | | <0.33 | | <0.23 | |
| MW-33 | Oct-11 | 5,200 | | 3,200 | | 16,000 | | 840 | | <200 | | <200 | | 370 | | 2,200 | |
| | Jan-12 | 1,100 | | 190 | | 4,100 | | 370 | | <50 | | <50 | | 94 | | 450 | |
| | Apr-12 | 13 | | 11 | | 1,800 | | 390 | | 12 | | 9.3 | J | 46 | | 390 | |
| | Jul-12 | 40 | J | 35 | J | 3,000 | | 290 | | <50 | | <50 | | 34 | J | 88 | J |
| | Oct-12 | 37 | | 35 | | 2,300 | | 330 | | <20 | | <20 | | 28 | | 70 | |
| | Jan-13 | 5.9 | | 9.9 | | 390 | | 130 | | 1.7 | J | 2.3 | | 7.3 | | 15 | |
| | Apr-13 | 1.2 | | 4.7 | | 380 | | 130 | | 1.3 | | 1.5 | | 5.3 | | 12 | |
| | Jul-13 | 15 | | 5.1 | J | 500 | | 220 | | <1.6 | | <1.4 | | 8.9 | J | 24 | |
| | Oct-13 | 1.2 | | 4.8 | | 800 | | 480 | | 1.8 | | 2 | | 9 | | 26 | |
| | Jan-14 | <1.6 | | <1.9 | | 340 | | 300 | | <1.6 | | <1.4 | | 16 | | 40 | |
| | Apr-14 | <1.6 | | 8.4 | J | 360 | | 140 | | <1.6 | | <1.4 | | 7 | J | 25 | |
| | Oct-14 | 1.2 | J | 9.7 | | 390 | | 440 | | <1.3 | | 3.5 | J | 9.4 | | 37 | |
| | Apr-15 | <0.74 | | 2.8 | | 150 | | 100 | | 1.7 | | 1.7 | | 3.1 | | 11 | |
| MW-34 | Oct-11 | 2.2 | | 1.7 | | 44 | | 14 | | 1.6 | | <1 | | <1 | | <2 | |
| | Jan-12 | 13 | | 4.4 | | 80 | | 8.8 | | 3.6 | | <1 | | <1 | | <2 | |
| | Apr-12 | 4.3 | | 2.2 | | 64 | | 16 | | 2.3 | | <1 | | <1 | | <2 | |
| | Jul-12 | 2.3 | | 1.3 | | 35 | | 7.8 | | 1.3 | | <1 | | <1 | | <2 | |
| | Oct-12 | 4.9 | | 1.8 | | 45 | | 8.6 | | 1.8 | | <1 | | <1 | | <2 | |
| | Jan-13 | 8.6 | | 2.5 | | 43 | | 8.4 | | 1.9 | | <1 | | <1 | | <2 | |
| | Apr-13 | 2.7 | | 0.91 | J | 19 | | 5.7 | | 0.76 | J | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | 3 | | 1 | J | 24 | | 0.19 | | 1.1 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | 6.1 | | 3.1 | | 36 | | 9.8 | | 1.3 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | 2.4 | | <0.19 | | 14 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | 0.51 | J | <0.19 | | 4.2 | | <0.19 | | 0.26 | J | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | 1.1 | | 0.23 | J | 5.1 | | 1.8 | | <0.25 | | <0.33 | | 0.17 | J | <0.20 | |
| | Apr-15 | 2.7 | | 0.52 | J | 9.9 | | 2.6 | | 0.47 | J | <0.48 | | <0.33 | | <0.23 | |
| MW-35 | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.16 | J | <0.18 | | <0.25 | | <0.33 | | 0.11 | J | <.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-36 | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | 0.33 | J | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.6 | J | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | 0.59 | J | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-37 | Jan-14 | 30 | | 16 | | 860 | | 130 | | 14 | | <0.14 | | <0.19 | | 1.9 | |
| | Apr-14 | 22 | | 11 | | 690 | | <0.19 | | 16 | | <0.14 | | 1.8 | | 3.8 | |
| | Oct-14 | 36 | | 12 | | 370 | | 93 | | 10 | | 0.91 | J | 0.83 | J | 2.4 | J |
| | Apr-15 | 19 | | 8.5 | | 350 | | 65 | | 6.4 | | <0.96 | | <0.66 | | 0.77 | J |

## Table 2-1: Concentrations of CVOCs and VOCs in Groundwater
## VOPAK Savannah Terminal, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| PAN-MW-9 | Feb-91 | 14,000 | | 350 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Jul-91 | 9,200 | | 430 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Jun-96 | 3,040 | | < 2500 | | < 2,500 | | < 2500 | | NS | | NS | | NS | | NS | |
| | Sep-97 | 8,100 | | NR | | NR | | < 500 | | NS | | NS | | NS | | NS | |
| | Dec-98 | 7,400 | | NR | | NR | | < 250 | | < 250 | | < 250 | | 2,400 | | 5,200 | |
| | Dec-99 | 9,100 | | < 1000 | | < 400 | | < 400 | | NS | | NS | | NS | | NS | |
| | Oct-00 | 8,000 | | 360 | | 130 | | < 100 | | < 100 | | < 100 | | 3,900 | | 8,600 | |
| | Jun-01 | 9,800 | | 260 | J | 100 | J | < 200 | | < 500 | | < 500 | | 3,700 | | 8,500 | |
| | Aug-03 | 2,400 | | < 500 | | < 500 | | < 200 | | < 500 | | < 500 | | 1,100 | | 2,000 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 6,900 | | 440 | | 300 | | 35 | | < 50 | | < 25 | | 3,100 | | 7,300 | |
| | Jul-04 | 3,200 | | 270 | | 170 | | 14 | | < 10 | | < 5 | | 8,400 | | 22,000 | |
| | Sep-04 | 6,000 | | 360 | | < 250 | | < 100 | | < 500 | | < 250 | | 2,200 | | 5,100 | |
| | May-05 | 1,100 | | 320 | | 220 | | < 100 | | < 100 | | < 100 | | 6,000 | | 16,000 | |
| | Aug-05 | 80 | | 9 | | 5 | | < 2 | | <2 | | < 5 | | 60 | | 150 | |
| | Jun-06 | 1,600 | | 480 | | 550 | | < 40 | | < 200 | | < 100 | | 730 | | 1,800 | |
| | Oct-06 | 1,500 | | 300 | | 990 | | < 40 | | < 200 | | < 100 | | 990 | | 2,600 | |
| | Dec-06 | 1,900 | | 640 | | 600 | | 23 | | < 2 | | < 2 | | 1,800 | | 4,900 | |
| | Mar-07 | 600 | | 370 | | 680 | | < 40 | | < 200 | | < 100 | | 4,500 | | 12,000 | |
| | Sep-07 | 1,500 | | 450 | | 880 | | < 40 | | < 40 | | < 40 | | 1,900 | | 5,400 | |
| | May-08 | 510 | | 190 | | 590 | | 18 | | < 2 | | 3 | | 8,800 | | 24,000 | |
| | Dec-08 | 540 | | 150 | | 500 | | 25 | | < 5 | | < 5 | | 3,900 | | 11,000 | |
| | Apr-09 | 460 | | 150 | | 780 | | < 40 | | < 100 | | < 100 | | 2,400 | | 6,300 | |
| | Sep-09 | 440 | | 150 | | 730 | | 49 | | < 10 | | < 10 | | 2,300 | | 6,100 | |
| | Apr-10 | 710 | | 140 | | 530 | | 93 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 350 | | 1,100 | | 780 | | 62 | | < 50 | | < 50 | | 1,900 | | 4,200 | |
| | Jan-12 | 690 | | 770 | | 820 | | 55 | | < 20 | | < 20 | | 2,000 | | 5,800 | |
| | Apr-12 | 280 | | 1,300 | | 1,100 | | 45 | | < 20 | | < 20 | | 1,900 | | 5,500 | |
| | Jul-12 | 37 | | 1,200 | | 1,300 | | 65 | | < 25 | | < 25 | | 890 | | 2,600 | |
| | Oct-12 | 210 | | 1,200 | | 1,800 | | 110 | | < 25 | | < 25 | | 1,800 | | 4,900 | |
| | Jan-13 | 540 | | 480 | | 1,200 | | 69 | | < 25 | | < 25 | | 1,100 | | 3,500 | |
| | Apr-13 | 240 | | 500 | | 1,400 | | 120 | | 2.8 | J | 3.4 | J | 1,000 | | 3,700 | |
| | Jul-13 | 55 | | 790 | | 1,200 | | 88 | | < 1.6 | | < 1.4 | | 760 | | 2,200 | |
| | Oct-13 | 29 | | 440 | | 2,500 | | 76 | | 1.1 | | 1.5 | | 1,000 | | 2,600 | |
| | Jan-14 | 17 | | 300 | | 2,100 | | 190 | | < 1.6 | | < 1.4 | | 1,100 | | 2,700 | |
| | Apr-14 | 22 | | 190 | | 2,000 | | 140 | | <1.6 | | <1.4 | | 960 | | 2,400 | |
| | Oct-14 | 17 | | 35 | | 1,900 | | 130 | | 4.4 | J | <3.3 | | 650 | | 1,800 | |
| | Apr-15 | <7.4 | | 4.9 | J | 2,000 | | 130 | | 5.2 | J | <4.8 | | 580 | | 1,400 | |
| PAN-MW-10 | Feb-91 | 37 | | < 5 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Sep-97 | 10 | | NR | | NR | | < 5 | | NS | | NS | | NS | | NS | |
| | Dec-98 | < 1 | | NR | | NR | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | |
| | Nov-99 | < 5 | | < 5 | | < 2 | | < 2 | | NS | | NS | | NS | | NS | |
| | Oct-00 | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jun-01 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 10 | |
| | Aug-03 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 10 | |
| | Sep-07 | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 5 | |
| | Apr-09 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 5 | |
| | Apr-10 | < 5 | | < 5 | | < 5 | | < 2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.79 | J | 2.6 | | 1.3 | | < 1 | | < 1 | | 3.7 | | < 1 | | 9.9 | |
| | Jan-12 | < 1 | | 0.21 | J | 3.7 | | 0.2 | J | 0.28 | J | 1.2 | | < 1 | | 17 | |
| | Apr-12 | < 1 | | < 1 | | 0.71 | J | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jul-12 | < 1 | | < 1 | | 0.29 | J | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Oct-12 | < 1 | | < 1 | | 1.4 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jan-13 | < 1 | | < 1 | | 1.2 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Apr-13 | < 0.22 | | < 0.20 | | 0.82 | J | < 0.30 | | < 0.18 | | <0.097 | | < 0.15 | | < 0.31 | |
| | Jul-13 | < 0.16 | | < 0.19 | | < 0.21 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Oct-13 | < 0.16 | | < 0.19 | | 0.76 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Jan-14 | < 0.16 | | < 0.19 | | 1.3 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.19 | | <0.14 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.34 | J | <0.18 | | <0.25 | | <0.11 | | <0.33 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Notes:**
**0.79** = Concentration above Minimum Detection Limit (MDL)
**39** = Concentration above RRS
NR = Not Reported by Laboratory
NS = Not Sampled
NL = Not Located
NU = Not Useable due to siltation
NA = Not Avaliable
All data prior to October 2011 tabulated by ERM

# FIGURES




## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | MW-16 | MONITORING WELLS SAMPLED |
| IW-6 | FORMER INJECTION WELL | (NL) | WELL NOT LOCATED |
| PZ-28 | PIEZOMETER LOCATION | (ABD) | ABANDONED WELL |
| | STICKUP WELL COMPLETION | (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| | FLUSH-TO-GRADE WELL COMPLETION | | STORMWATER PIPE |
| | | | RAILROAD |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

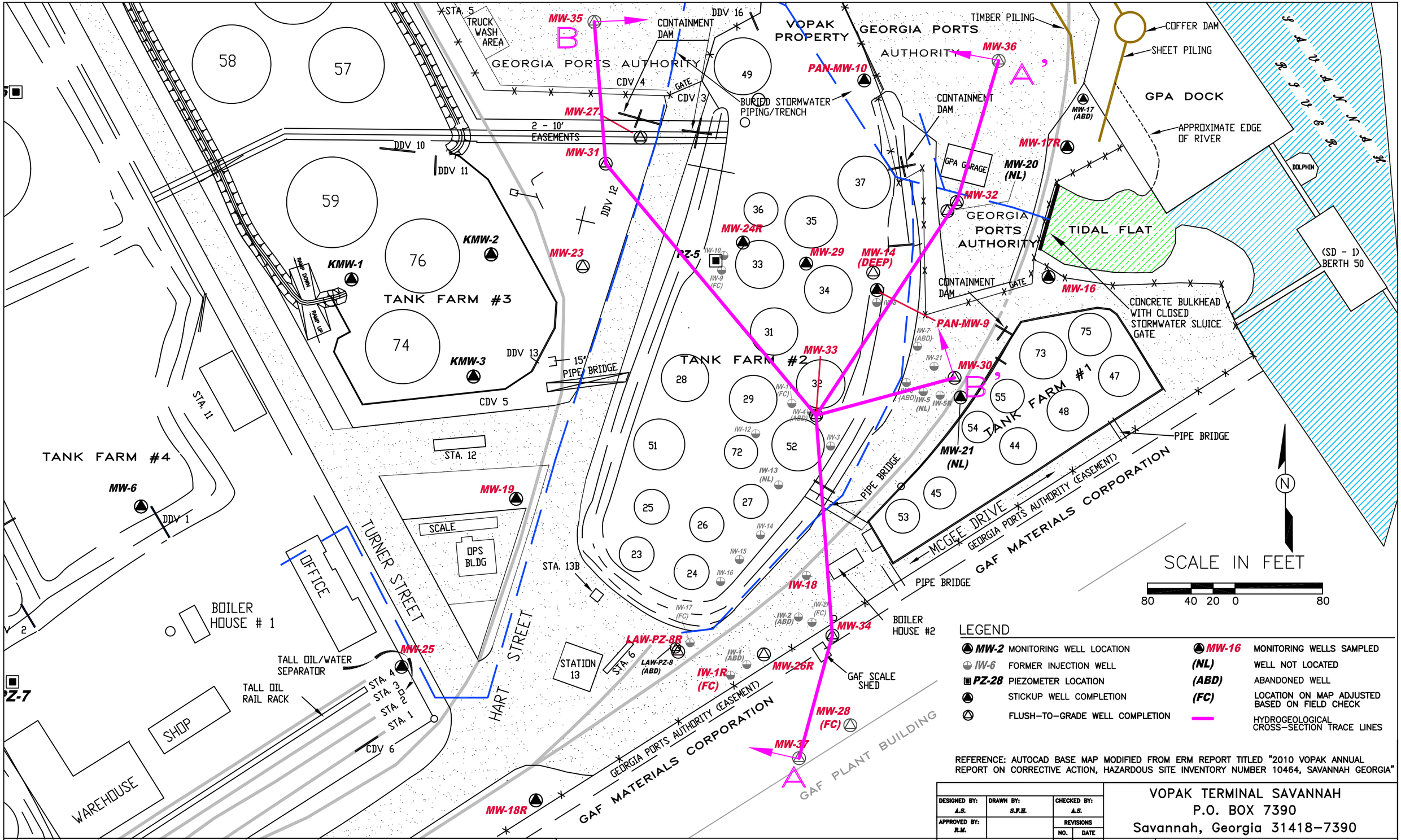
# FIGURE 1-1:
# SITE LAYOUT MAP

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/04/2015 | 390020- 7TH SEMI-ANNUAL RPT | |




## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | MW-16 | MONITORING WELLS SAMPLED |
| IW-6 | FORMER INJECTION WELL | (NL) | WELL NOT LOCATED |
| PZ-28 | PIEZOMETER LOCATION | (ABD) | ABANDONED WELL |
| | STICKUP WELL COMPLETION | (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| | FLUSH-TO-GRADE WELL COMPLETION | | HYDROGEOLOGICAL CROSS-SECTION TRACE LINES |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 1-2:
# HYDROGEOLOGICAL CROSS-SECTION TRACE MAP

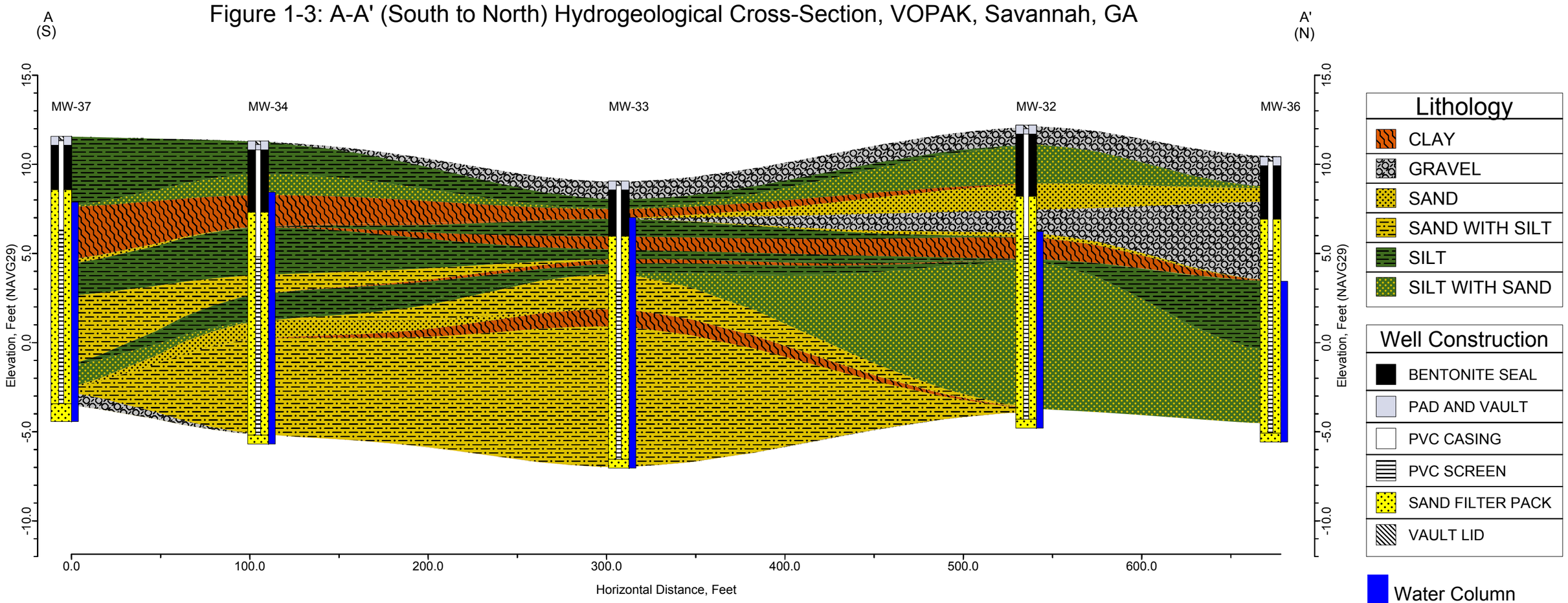
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.P.H. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/23/2015 | 390031- GEOLOGIC CROSS-SECTION | |

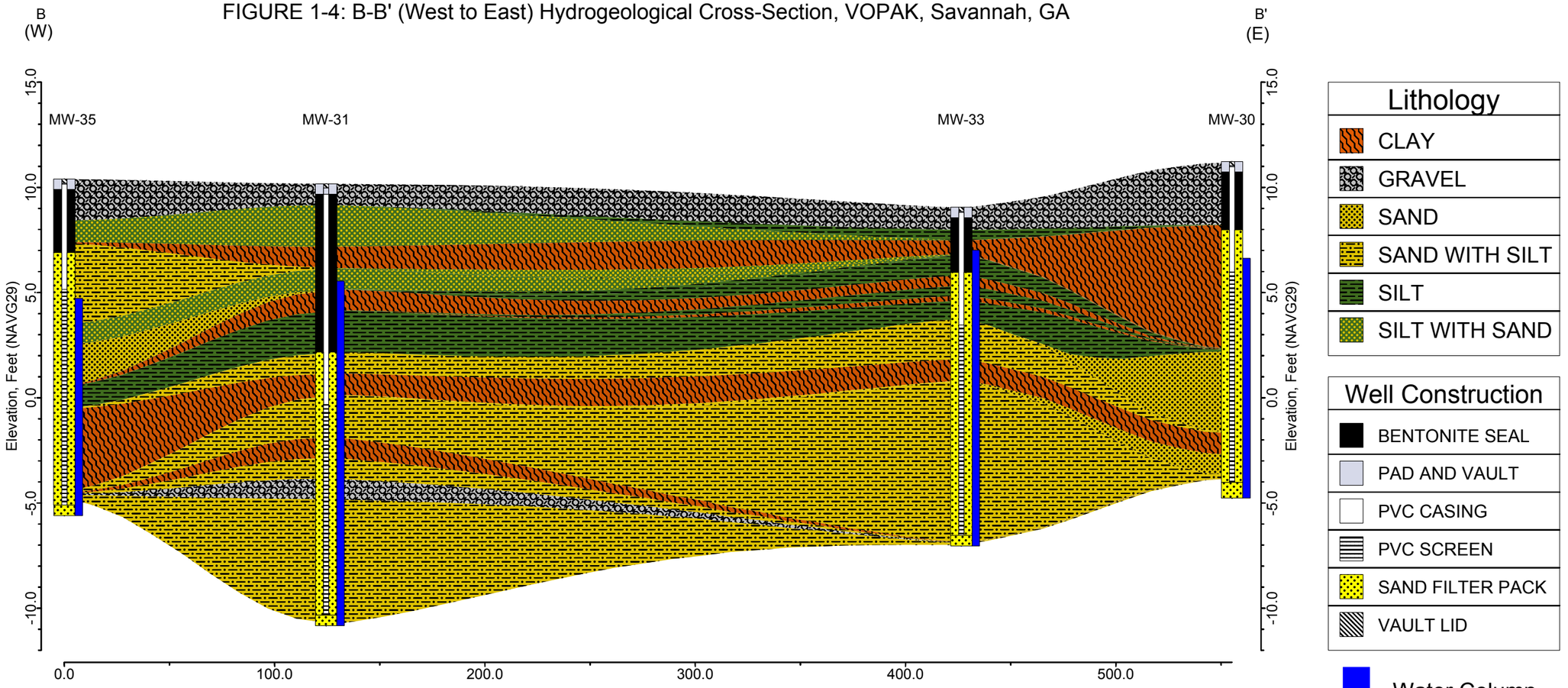
# Figure 1-3: A-A' (South to North) Hydrogeological Cross-Section, VOPAK, Savannah, GA




NOTES:
Hydrogeological cross-section is based on lithological data logs recorded during well installation at the site by EIC. Extrapolated surfaces were derived utilizing Rockworks 2006 stratigraphy modeling software by Rockware. Well construction data is based on well construction logs recorded by EIC for each respective well. Groundwater elevation is based on EIC April 2014 gauging and is the highest recorded since October 2011.

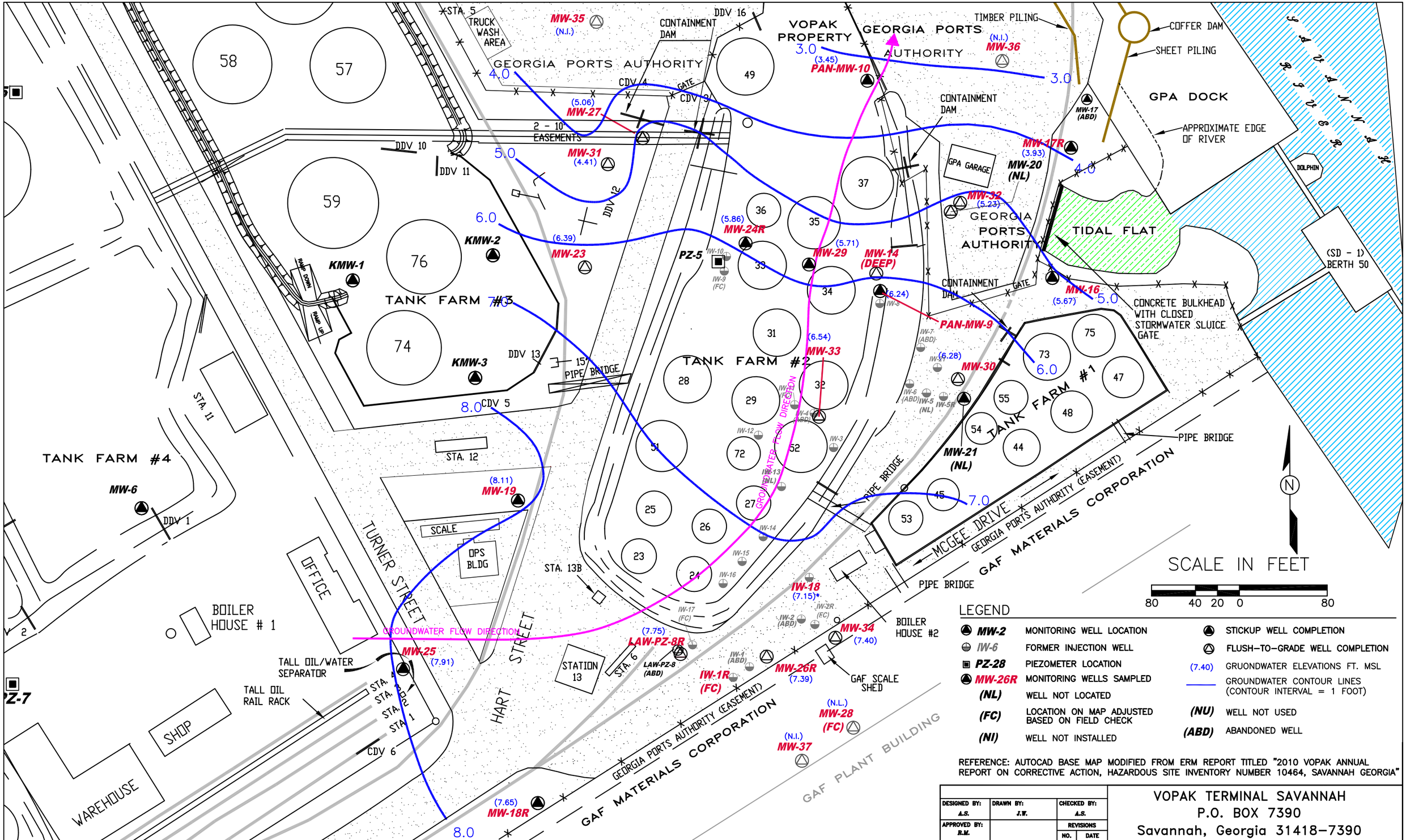
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| VOPAK TERMINAL SAVANNAH<br>P.O. BOX 7390<br>SAVANNAH, GEORGIA 31418-7390 | EIC | SEAL: | DESIGNED BY: | S.F.H | DATE: | 7/10/2014 | FILE: | 390031 |
| | | | DRAWN BY: | S.F.H | REVISION: | DATE: | SHEET NO.: | 1 of 1 |
| ENVIRONMENTAL INTERNATIONAL CORPORATION<br>161 KIMBALL BRIDGE ROAD<br>ALPHARETTA, GEORGIA 30009 | | | CHECKED BY: | A.S. | | | VERTICAL EXAGERATION = 10X | |
| | | | APPROVED BY: | R.M. | | | | |

# FIGURE 1-4: B-B' (West to East) Hydrogeological Cross-Section, VOPAK, Savannah, GA




NOTES:
Hydrogeological cross-section is based on lithological data logs recorded during well installation at the site by EIC. Extrapolated surfaces were derived utilizing Rockworks 2006 stratigraphy modeling software by Rockware. Well construction data is based on well construction logs recorded by EIC for each respective well. Groundwater elevation is based on EIC April 2014 gauging and is the highest recorded since October 2011.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| VOPAK TERMINAL SAVANNAH<br>P.O. BOX 7390<br>SAVANNAH, GEORGIA 31418-7390 | EIC | SEAL: | DESIGNED BY: | S.F.H | DATE: | 7/22/2014 | FILE: | 390031 |
| | | | DRAWN BY: | S.F.H | REVISION: | DATE: | SHEET NO.: | 1 of 1 |
| ENVIRONMENTAL INTERNATIONAL CORPORATION<br>161 KIMBALL BRIDGE ROAD<br>ALPHARETTA, GEORGIA 30009 | | | CHECKED BY: | A.S. | | | VERTICAL EXAGERATION = 10X | |
| | | | APPROVED BY: | R.M. | | | | |




LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (7.40) | GRUONDWATER ELEVATIONS FT. MSL |
| MW-26R | MONITORING WELLS SAMPLED | | GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL = 1 FOOT) |
| (NL) | WELL NOT LOCATED | (NU) | WELL NOT USED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (ABD) | ABANDONED WELL |
| (NI) | WELL NOT INSTALLED | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES:
ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC" WELLS, AND MW-15), IW-18, FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY.

# FIGURE 1-5:
# GROUNDWATER POTENTIOMETRIC SURFACE MAP
# OCTOBER 25 - 27, 2011

| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | J.W. | A.S. |
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/24/2015 | 390020 - 7TH MNA SAMPLING | |

STA. 5
CONTAINMENT DAM
DDV 16
VOPAK PROPERTY
GEORGIA PORTS AUTHORITY
(3.35) PAN-MW-10
GEORGIA PORTS AUTHORITY
CONTAINMENT DAM
DOCK
CDV 4
GATE
CDV 3
(4.30) MW-27
2 - 10' EASEMENTS
DDV 10
DDV 11
MW-31 (3.92)
4.0
DDV 12
5.0
(5.71) MW-23
(5.22) MW-24R
(4.67) MW-29
MW-14 (DEEP) (NL)
(5.32) PAN-MW-9
(4.79) MW-17R
GPA GARAGE
MW-20 (NL) (4.75)
MW-32
GEORGIA PORTS AUTHORITY
TIDAL FLAT
DOLPHIN
(SD - 1) BERTH 50
KMW-2
KMW-1
PZ-5
IW-10
IW-9 (FC)
IW-8 (NL)
IW-7
RAMP DOWN
RAMP UP
TANK FARM #3
6.0
KMW-3
DDV 13
15" PIPE BRIDGE
CDV 5
CONTAINMENT DAM
GATE
MW-16 (4.04)
4.0
CONCRETE BULKHEAD WITH STORMWATER SLUICE GATE
(5.07) MW-33
TANK FARM #2
(5.29) MW-30
IW-6
IW-5
IW-11 (FC)
IW-4 (ABD)
MW-22 (FC) (NU)
IW-12
IW-3
IW-13 (NL)
MW-21 (NL)
TANK FARM #1
5.0
PIPE BRIDGE
STA. 11
TANK FARM #4
MW-6
DDV 1
7.0
STA. 12
(7.17) MW-19
SCALE
OPS BLDG
TURNER STREET
OFFICE
STA. 13
IW-14
IW-15
IW-16
MW-15 (NU) (FC)
PIPE BRIDGE
MCGEE DRIVE
GEORGIA PORTS AUTHORITY (EASEMENT)
6.0
GAF MATERIALS CORPORATION
IW-18 (6.22)
IW-17
(6.53) MW-34
BOILER HOUSE # 2
BOILER HOUSE # 1
(7.12) MW-25
(6.78) LAW-PZ-8R
(5.41) MW-26R
IW-2R (FC)
IW-1R (FC)
GAF SCALE SHED
TALL OIL/WATER SEPARATOR
STA. 4
STA. 3
STA. 2
STA. 1
HART STREET
STATION 13
STA. 6
TALL OIL RAIL RACK
SHOP
CDV 6
7.0
MW-28 (NL)
PZ-7
WAREHOUSE
(6.76) MW-18R
GEORGIA PORTS AUTHORITY (EASEMENT)

SCALE IN FEET
80 40 20 0 80

LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | | FLUSH-TO-GRADE WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | (6.53) | GROUNDWATER ELEVATIONS FT. MSL |
| MW-15 | WELLS SAMPLED | 7.0 | GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL = 1 FOOT) |
| (NL) | WELL NOT LOCATED | (NU) | NOT USED DUE TO SEDIMENTS IN WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES:
ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC" WELLS, AND MW-15), IW-18, FENCE LINES BETWEEN VOPAK AND GPA, GPA EASEMENT AND TANKS 32,34,37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. ON 6/30/2011

# FIGURE 1-6:
# GROUNDWATER POTENTIOMETRIC SURFACE MAP
# JANUARY 21 – 24, 2013

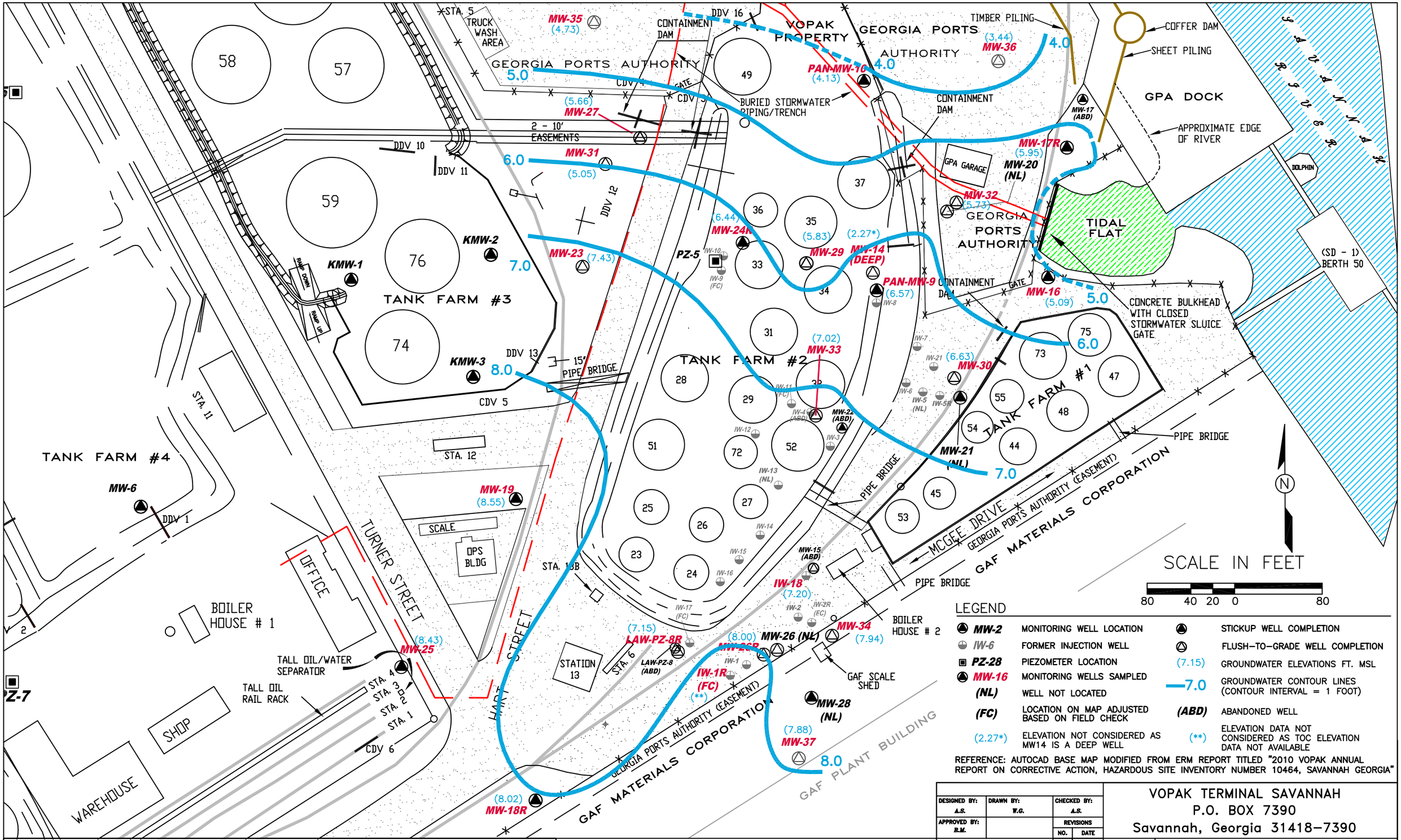
| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | S.K. | A.S. |
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/15/2013 | 390020 - 6TH MNA SAMPLING | |




## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | | FLUSH–TO–GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (7.15) | GROUNDWATER ELEVATIONS FT. MSL |
| MW-16 | MONITORING WELLS SAMPLED | 7.0 | GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL = 1 FOOT) |
| (NL) | WELL NOT LOCATED | (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (**) | ELEVATION DATA NOT CONSIDERED AS TOC ELEVATION DATA NOT AVAILABLE |
| (2.27*) | ELEVATION NOT CONSIDERED AS MW14 IS A DEEP WELL | | |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW–15), IW–18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW–14, MW–26R, MW–30, MW–33, AND INJECTION WELLS ("IW"), IW2–R, IW5–R, IW–6, IW–7, IW–8, AND IW–21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS–BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW–2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW–2 IS CURRENTLY PARTIALLY ABANDONED. MW–35, MW–36, AND MW–37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

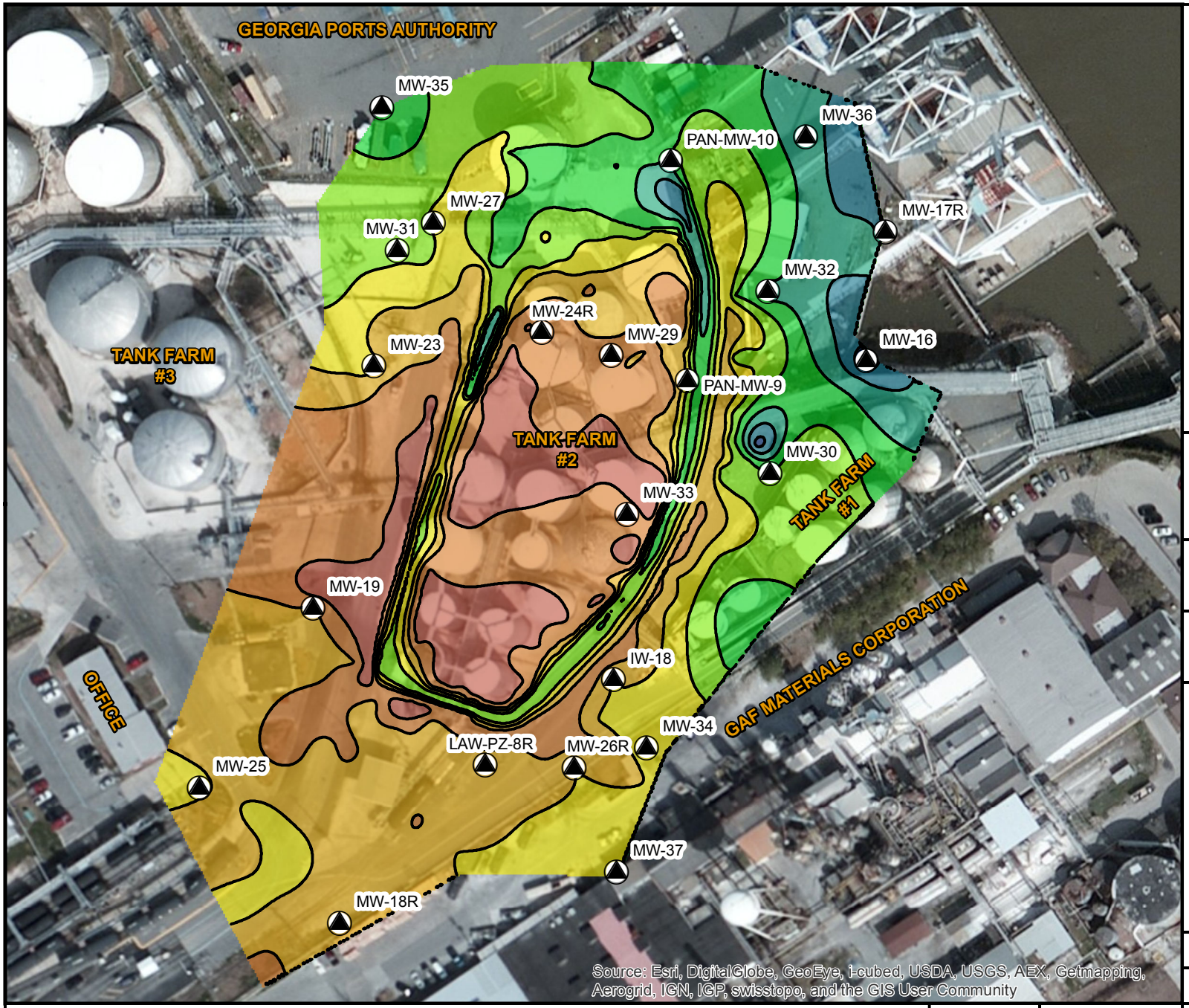
# FIGURE 1–7:
# GROUNDWATER POTENTIOMETRIC SURFACE MAP
# APRIL 15–17, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418–7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 05/2/2014 | 390020 – 11TH MNA SAMPLING | |




## Legend

Monitoring Wells

**DEPTH TO GROUNDWATER BELOW GROUND SURFACE**

| | |
|---|---|
| 0 - 1 | 5 - 6 |
| 1 - 2 | 6 - 7 |
| 2 - 3 | 7 - 8 |
| 3 - 4 | 8 - 9 |
| 4 - 5 | 9 - 10 |

N

50 0 50 100

Feet

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SAVANNAH, GEORGIA 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA, GEORGIA 30009

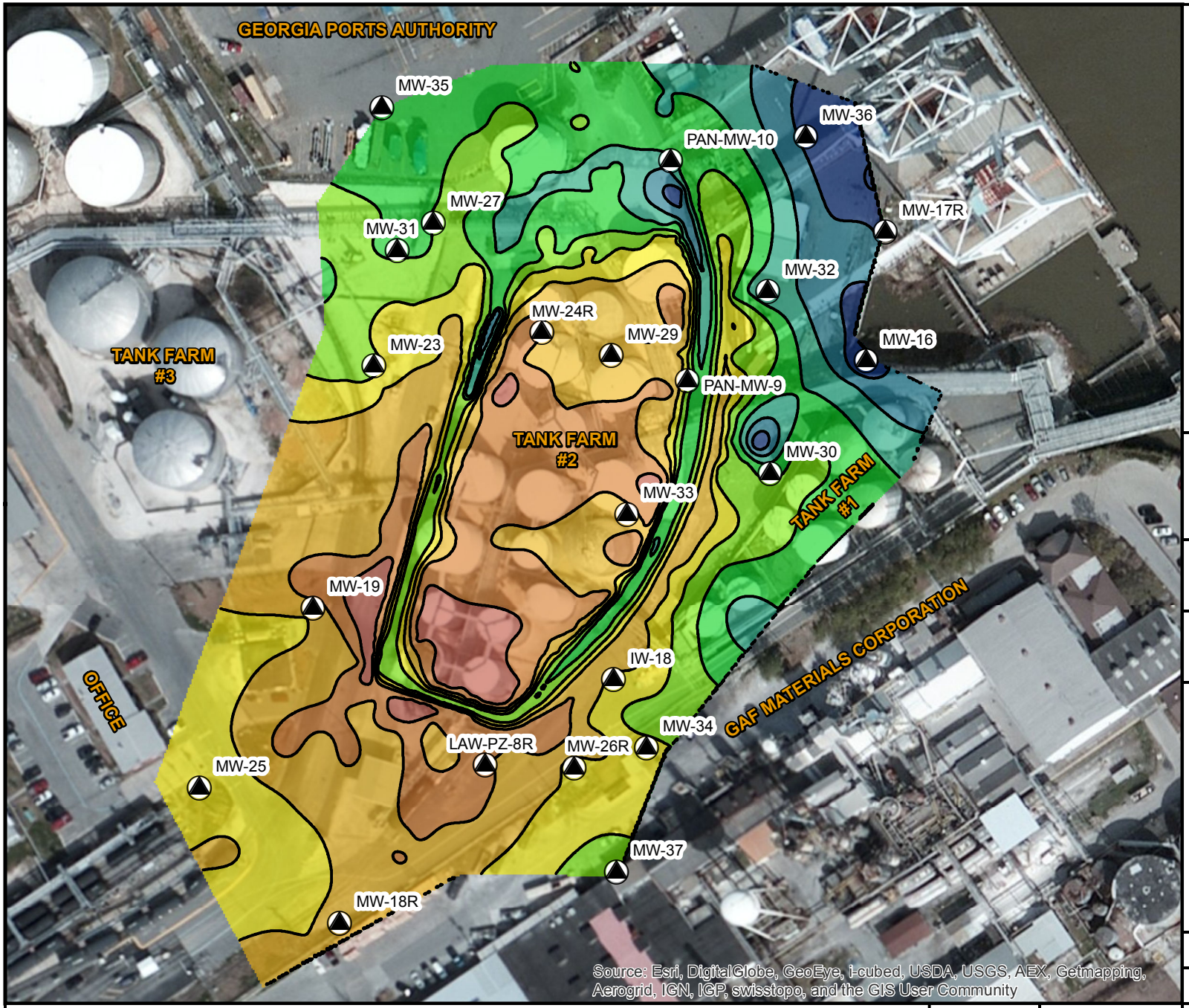
Source: Basemap aerial photograph is from ArcGIS Google Maps layer file. Topography elevation data derived from 2005 Topographic Survey Map by EMC Engineering Services and was converted to the NGVD 29 datum. Groundwater elevations are from EIC's April 2014 groundwater monitoring event. Depth to water below ground surface was estimated using ArcGIS's 3D Analyst software to interpolate and compute the difference between ground surface elevations and groundwater surface elevations. All elevations in the analysis were in the NGVD 29 datum.

# Figure 1-8: Depth to Groundwater Below Ground Surface During Highest Recorded Groundwater Surface Elevation VOPAK Savannah Terminal, Savannah, GA

**Seal:**

| Designed By: W.G. | Revision No. | Date |
|---|---|---|
| Drawn By: W.G. | | |
| Checked By: A.S, | | |
| Approved By: R.M. | | |
| File: 390031 | Sheet No.: 1 of 1 | |
| Scale: See bar scale | Date: 7/24/2014 | |

Document Path: Z:\projects\1910 project-GA\290000 VOPAK\Savannah\390031 SCM\120 draft EIC reports\GW Vs. Elevation Analysis\GIS\GW Elevation vs. Ground Surface Map.mxd




## Legend

Monitoring Wells

**DEPTH TO GROUNDWATER BELOW GROUND SURFACE**

| | |
|---|---|
| 0 - 1 | 5 - 6 |
| 1 - 2 | 6 - 7 |
| 2 - 3 | 7 - 8 |
| 3 - 4 | 8 - 9 |
| 4 - 5 | 9 - 10 |

N

50 0 50 100

Feet

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
SAVANNAH, GEORGIA 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA, GEORGIA 30009

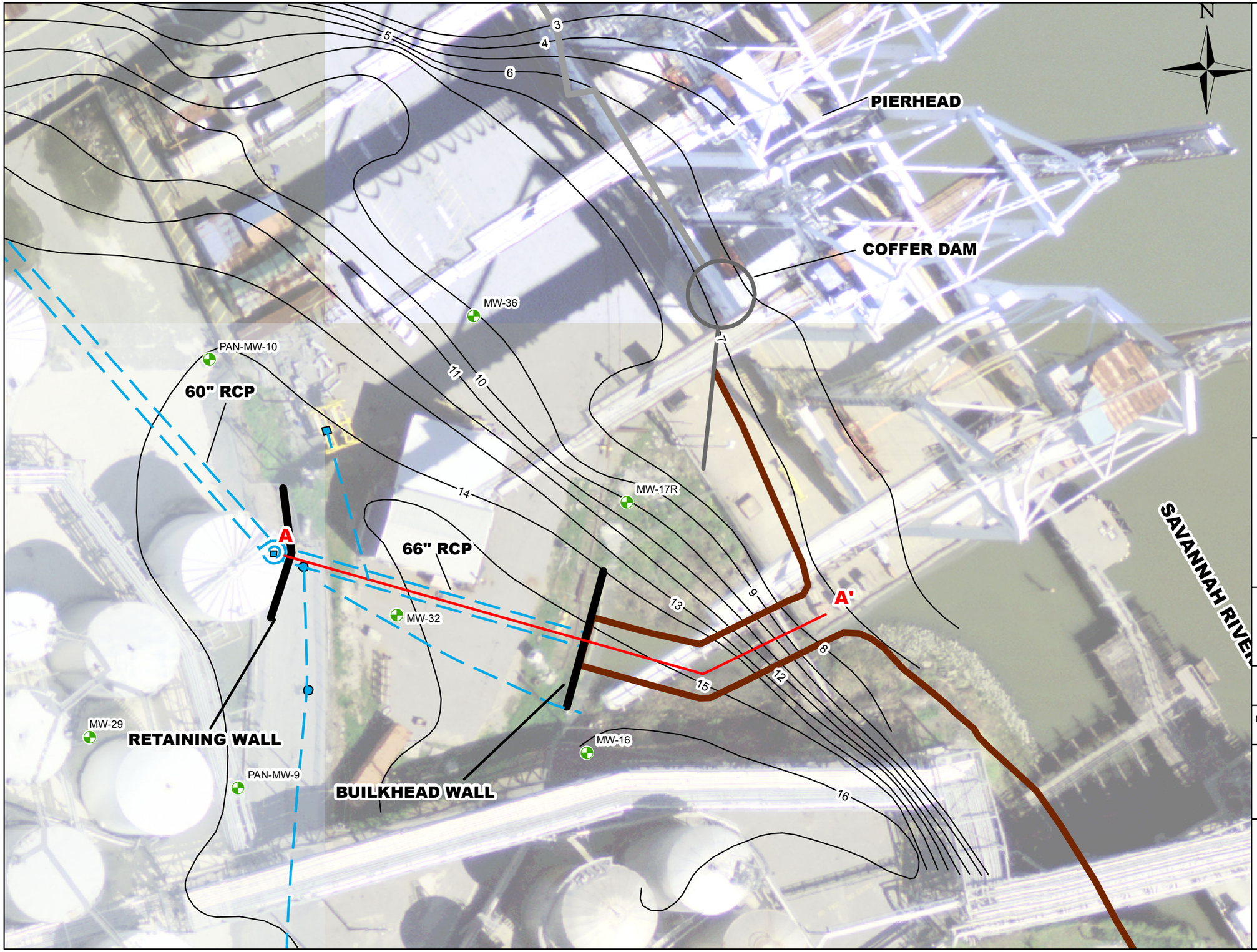
Source: Basemap aerial photograph is from ArcGIS Google Maps layer file. Topography elevation data derived from 2005 Topographic Survey Map by EMC Engineering Services and was converted to the NGVD 29 datum. Groundwater elevations are from EIC's January 2014 groundwater monitoring event. Depth to water below ground surface was estimated using ArcGIS's 3D Analyst software to interpolate and compute the difference between ground surface elevations and groundwater surface elevations. All elevations in the analysis were in the NGVD 29 datum.

# Figure 1-9: Depth to Groundwater Below Ground Surface During Lowest Recorded Groundwater Surface Elevation VOPAK Savannah Terminal, Savannah, GA

**Seal:**

| Designed By: W.G. | Revision No. | Date |
|---|---|---|
| Drawn By: W.G. | | |
| Checked By: A.S, | | |
| Approved By: R.M. | | |
| File: 390031 | Sheet No.: 1 of 1 | |
| Scale: See bar scale | Date: 7/24/2014 | |

Document Path: Z:\projects\1910 project-GA\290000 VOPAK\Savannah\390031 SCM\120 draft EIC reports\GW Vs. Elevation Analysis\GIS\GW Elevation vs. Ground Surface Map.mxd




## Legend

- CROSS SECTION TRACE
- PIERHEAD
- BULKHEAD
- STORMWATER FEATURES
- SHEETPILE
- HISTORICAL SHORELINE (1953)
- TOPOGRAPHICAL CONTOURS PRIOR TO DEVELOPMENT (1953) (1 FT INTERVAL)
- MONITORING WELL

REFERENCE: FEATURES DERIVED FROM GEORGIA PORTS AUTHORITY UTILITIES LAYOUT DRAWING BY ROBERT AND COMPANY 7/29/53 NUMBERED 00-45-007-031. TOPOGRAPHICAL CONTOURS ARE IN THE NVGD29 REFERENCE DATUM.

AERIAL PHOTS ARE FROM USGS AERIAL PHOTO DATABASE (2011).

RCP = Reinforced Concrete Pipe

0 20 40 80 Feet

| DRAWN BY: S.F.H | CHECKED BY: A.S. | Date: 6/24/2015 |
|---|---|---|
| DESIGNED BY: S.F.H | APPROVED BY: R.M. | Project Number: 390031 |

**FIGURE 1-10: BULKHEAD MAP WITH CROSS SECTIONAL TRACE LINES**

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
SAVANNAH, GEORGIA 31418-7390

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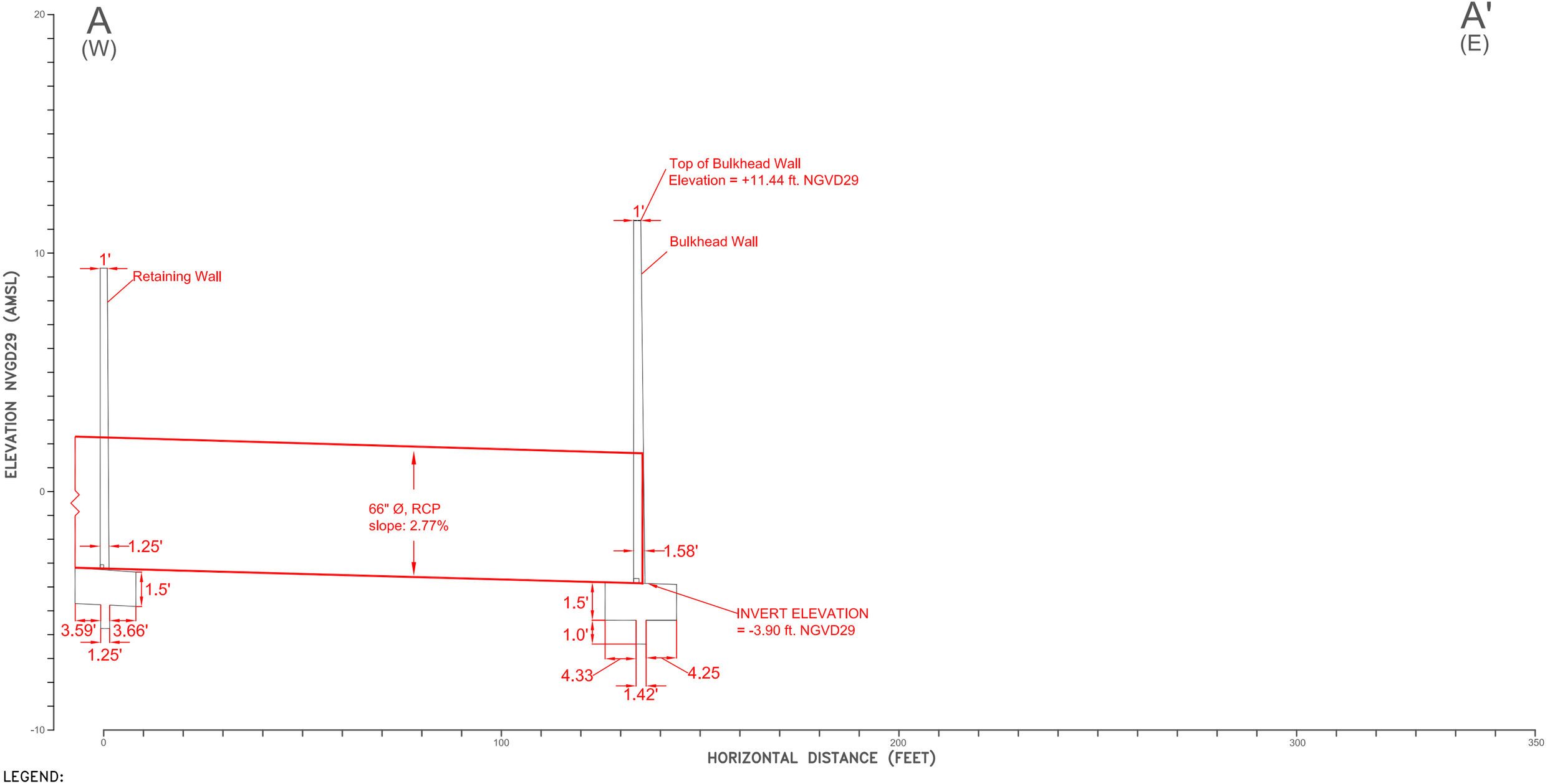
161 KIMBALL BRIDGE ROAD
ALPHARETTA, GEORGIA 30009




LEGEND:

STORMWATER PIPE

BULKHEAD

8.5' ANNOTATIONS

NOTES:
SURVEY ELEVATION OF EASTERN BULKHEAD FROM 2011 GEOGRAPHICAL SURVEY BY EMC ENGINEERING SERVICES. BULKHEAD DIMENSIONS WERE BASED ON GEORGIA PORTS AUTHORITY SAVANNAH PORTS FACILITIES DRAWING NO. 00-45-007-031 BY ROBERT AND COMPANY TITLED UTILITIES LAYOUT. ALL ELEVATIONS OF STORMWATER PIPE AND BULKHEAD ARE BASED ON COMPARISON OF 1953 AND 2004 SURVEY MAPS WITH BOTH SURVEYS MARKING THE ELEVATION OF THE TOP OF THE EASTERN BULKHEAD WALL.

FIGURE 1-11:
BULKHEAD CROSS SECTION DIAGRAM
VOPAK TERMINAL SAVANNAH, SAVANNAH, GA

| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| D.V. | D.V. | W.G. |
| APPROVED BY: | | REVISIONS NO. / DATE |

SEAL:

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P.O. BOX 7390
Savannah, Georgia 31418-7390

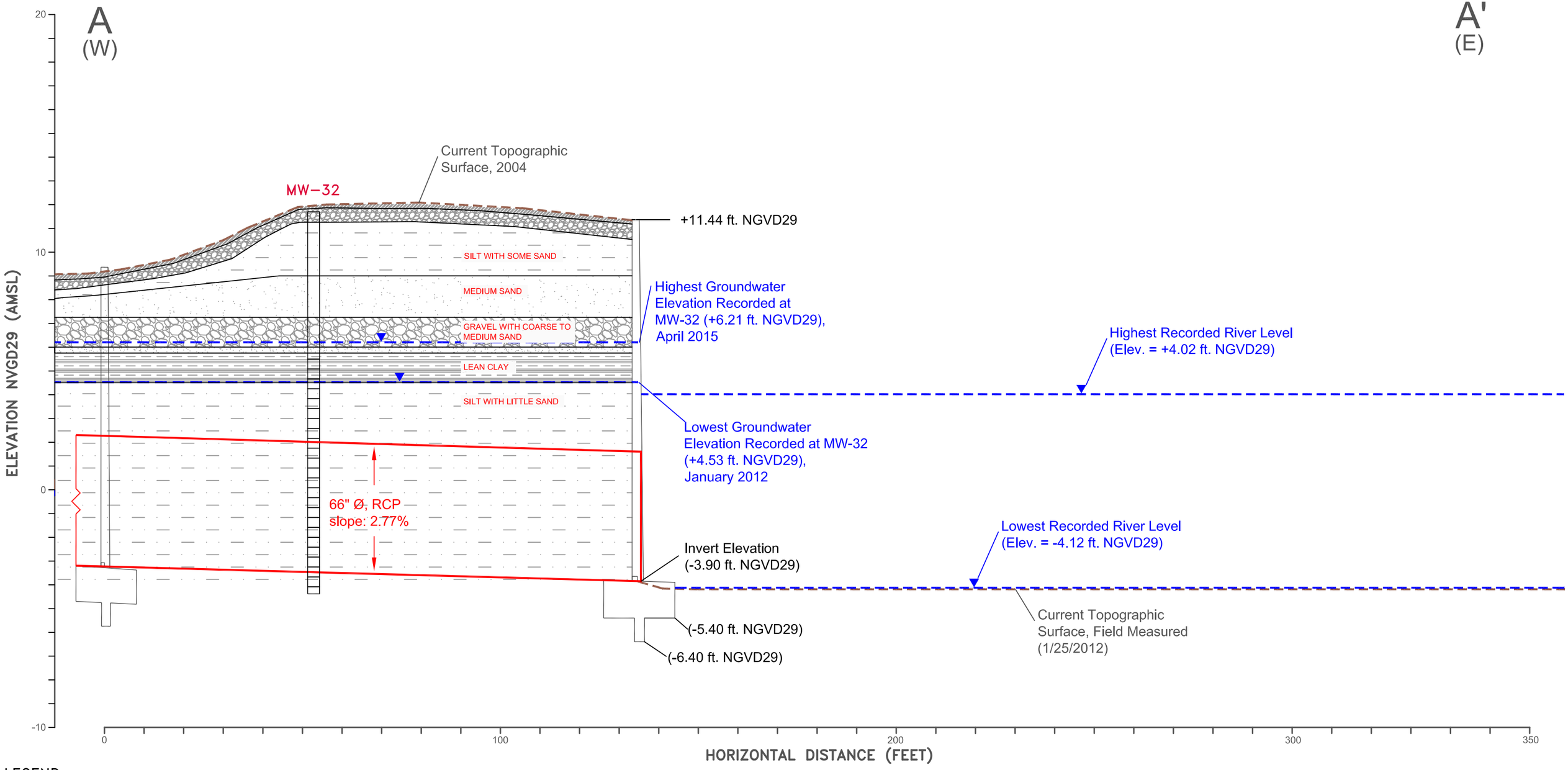
ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

VERTICAL EXAGGERATION: 3.33X

DATE: 06/23/2015

FILE: 390033 - SCM Bulkhead X-Section

SHEET NO.:




LEGEND:

- STORMWATER PIPE
- BULKHEAD
- GROUND SURFACE
- GROUNDWATER/ SURFACE WATER
- WELL SCREEN

NOTES:
CURRENT GROUND SURFACE ELEVATIONS ARE BASED ON 2004 TOPOGRAPHY SURVEY BY EMC ENGINEERING SERVICES AND WERE CONVERTED TO THE NGVD 29 VERTICAL DATUM. SURVEY ELEVATION OF EASTERN BULKHEAD FROM 2011 GEOGRAPHICAL SURVEY BY EMC ENGINEERING SERVICES. BULKHEAD DIMENSIONS WERE BASED ON GEORGIA PORTS AUTHORITY SAVANNAH PORTS FACILITIES DRAWING NO. 00-45-007-031 BY ROBERT AND COMPANY TITLED UTILITIES LAYOUT. ALL ELEVATIONS OF STORMWATER PIPE AND BULKHEAD ARE BASED ON COMPARISON OF 1953 AND 2004 SURVEY MAPS WITH BOTH SURVEYS MARKING THE ELEVATION OF THE TOP OF THE EASTERN BULKHEAD WALL. SURFACE WATER ELEVATIONS FOR SAVANNAH RIVER ARE DERIVED FROM EIC'S TIDAL INFLUENCE STUDY, CONDUCTED IN APRIL 2012. LITHOLOGY IS DERIVED FROM THE SOIL LOG FOR MONITORING WELL MW-32.

FIGURE 1-12:
BULKHEAD LITHOLOGICAL CROSS SECTION DIAGRAM
VOPAK TERMINAL SAVANNAH, SAVANNAH, GA

| | | | |
|---|---|---|---|
| DESIGNED BY: D.V. | DRAWN BY: D.V. | CHECKED BY: W.G. | |
| APPROVED BY: | | REVISIONS NO. | DATE |
| SEAL: | | | |

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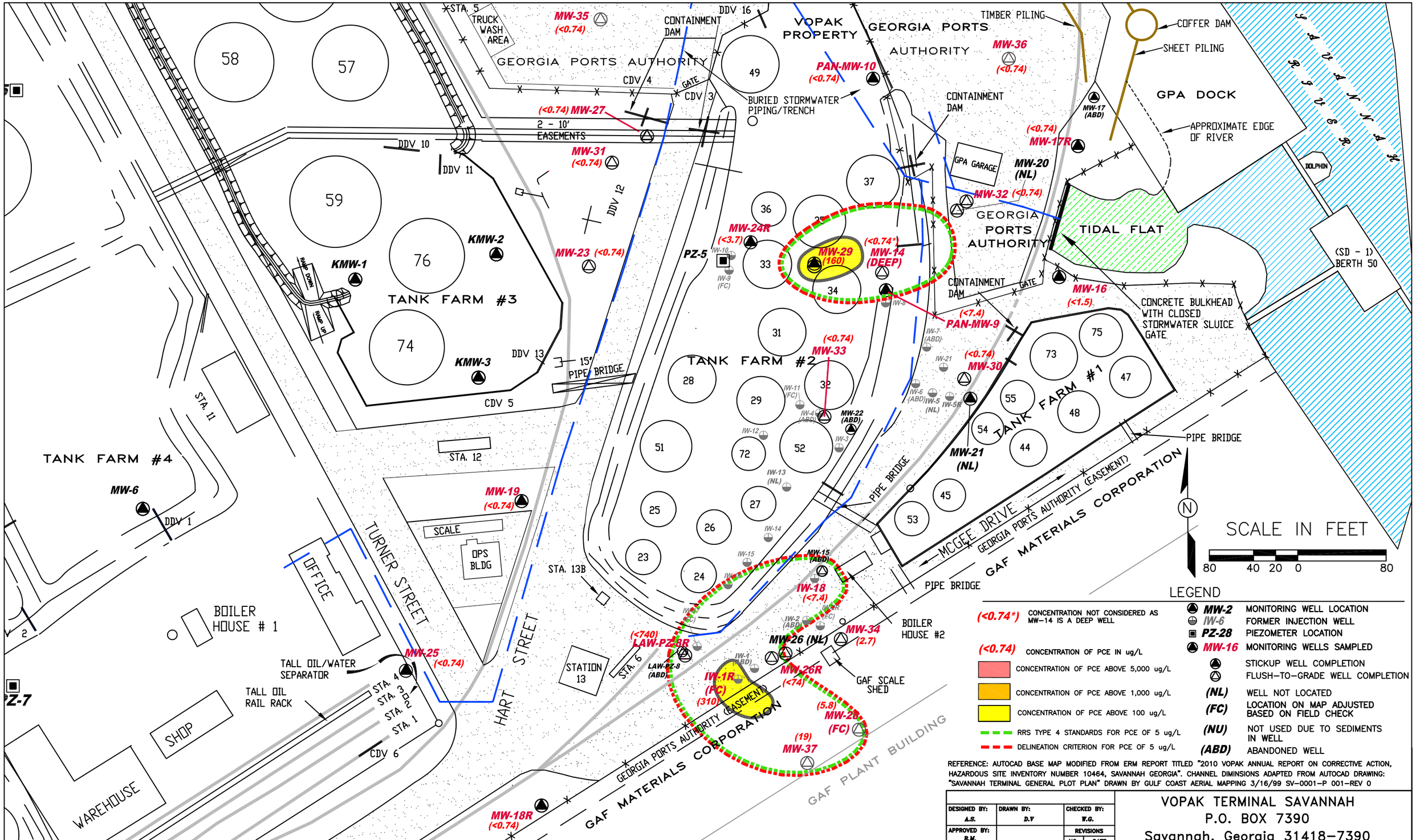
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

VERTICAL EXAGGERATION: 3.33X | DATE: 06/23/2015 | FILE: 390033 - SCM Bulkhead X-Section | SHEET NO.:




LEGEND

| | |
|---|---|
| (<0.74*) CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | MW-2 MONITORING WELL LOCATION |
| (<0.74) CONCENTRATION OF PCE IN ug/L | IW-6 FORMER INJECTION WELL |
| CONCENTRATION OF PCE ABOVE 5,000 ug/L | PZ-28 PIEZOMETER LOCATION |
| CONCENTRATION OF PCE ABOVE 1,000 ug/L | MW-16 MONITORING WELLS SAMPLED |
| CONCENTRATION OF PCE ABOVE 100 ug/L | STICKUP WELL COMPLETION |
| RRS TYPE 4 STANDARDS FOR PCE OF 5 ug/L | FLUSH-TO-GRADE WELL COMPLETION |
| DELINEATION CRITERION FOR PCE OF 5 ug/L | (NL) WELL NOT LOCATED |
| | (FC) LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| | (NU) NOT USED DUE TO SEDIMENTS IN WELL |
| | (ABD) ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-1:
# PCE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: D.V | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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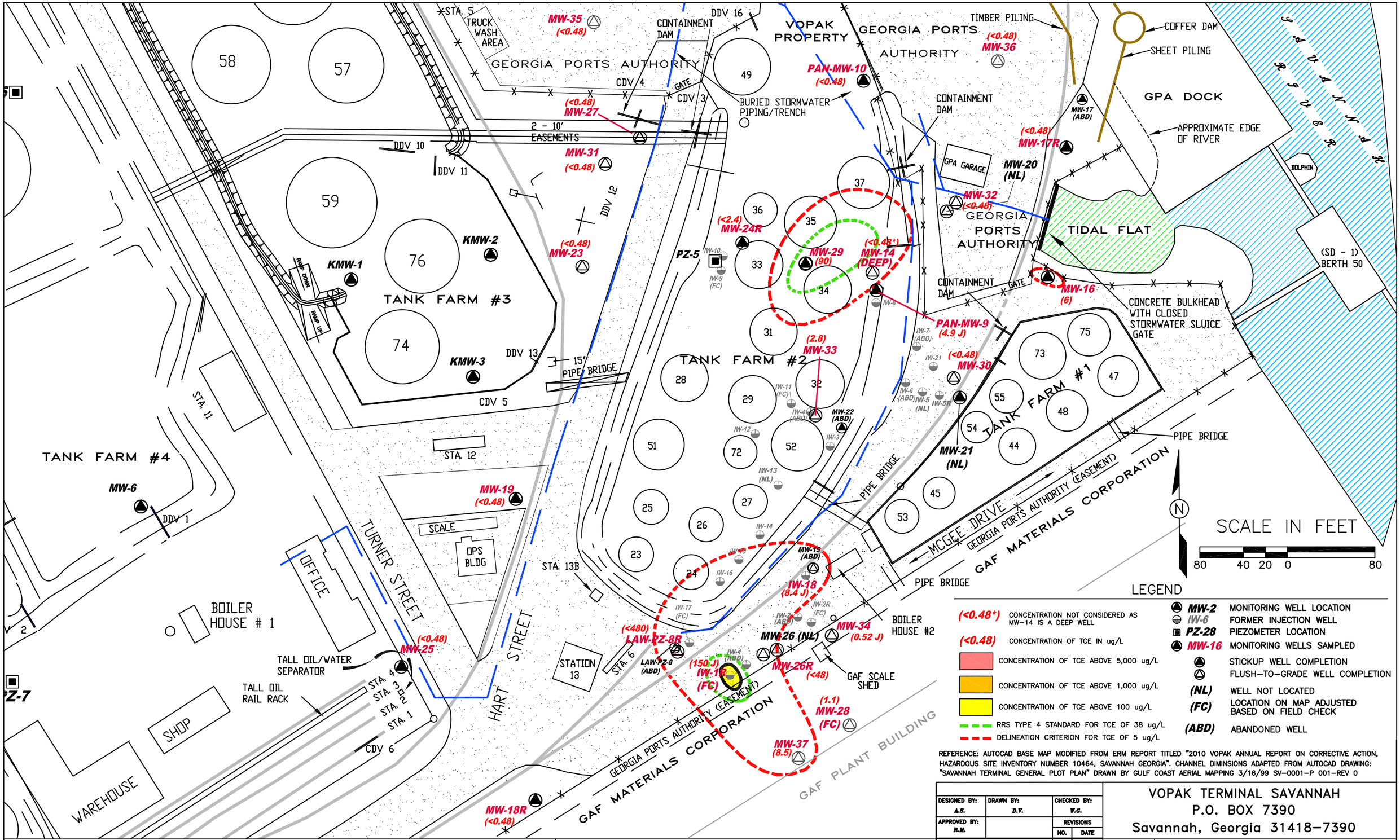
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 04/16/2015 | 390020 - 8TH SEMI-ANNUAL RPT | |




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-2:
# TCE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: D.V. | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

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SEAL:

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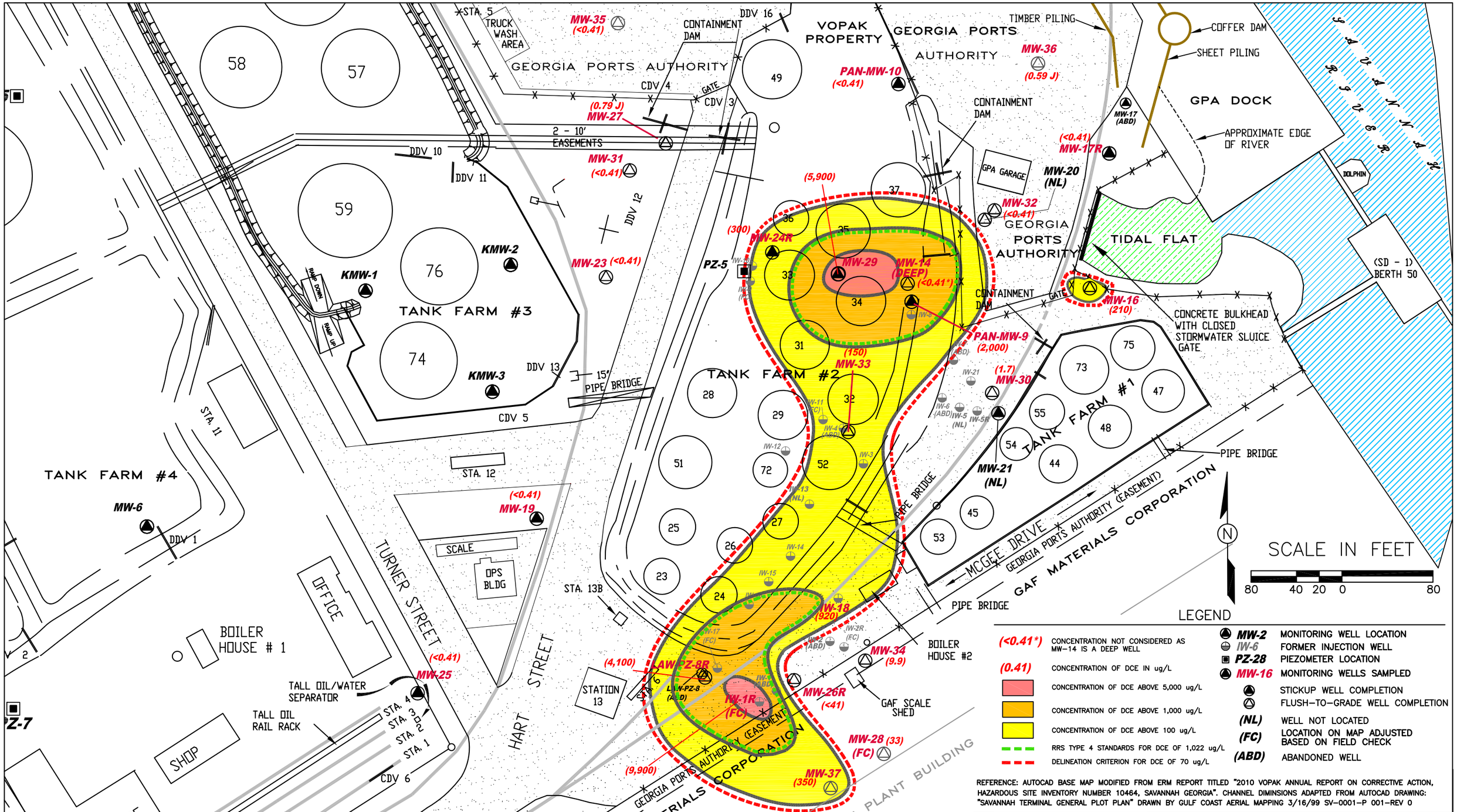
| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 4/16/2015 | 390020 - 8TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.41*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.41) | CONCENTRATION OF DCE IN ug/L |
| | CONCENTRATION OF DCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF DCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF DCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR DCE OF 1,022 ug/L |
| | DELINEATION CRITERION FOR DCE OF 70 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-3:
# CIS-1, 2 DCE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: D.V | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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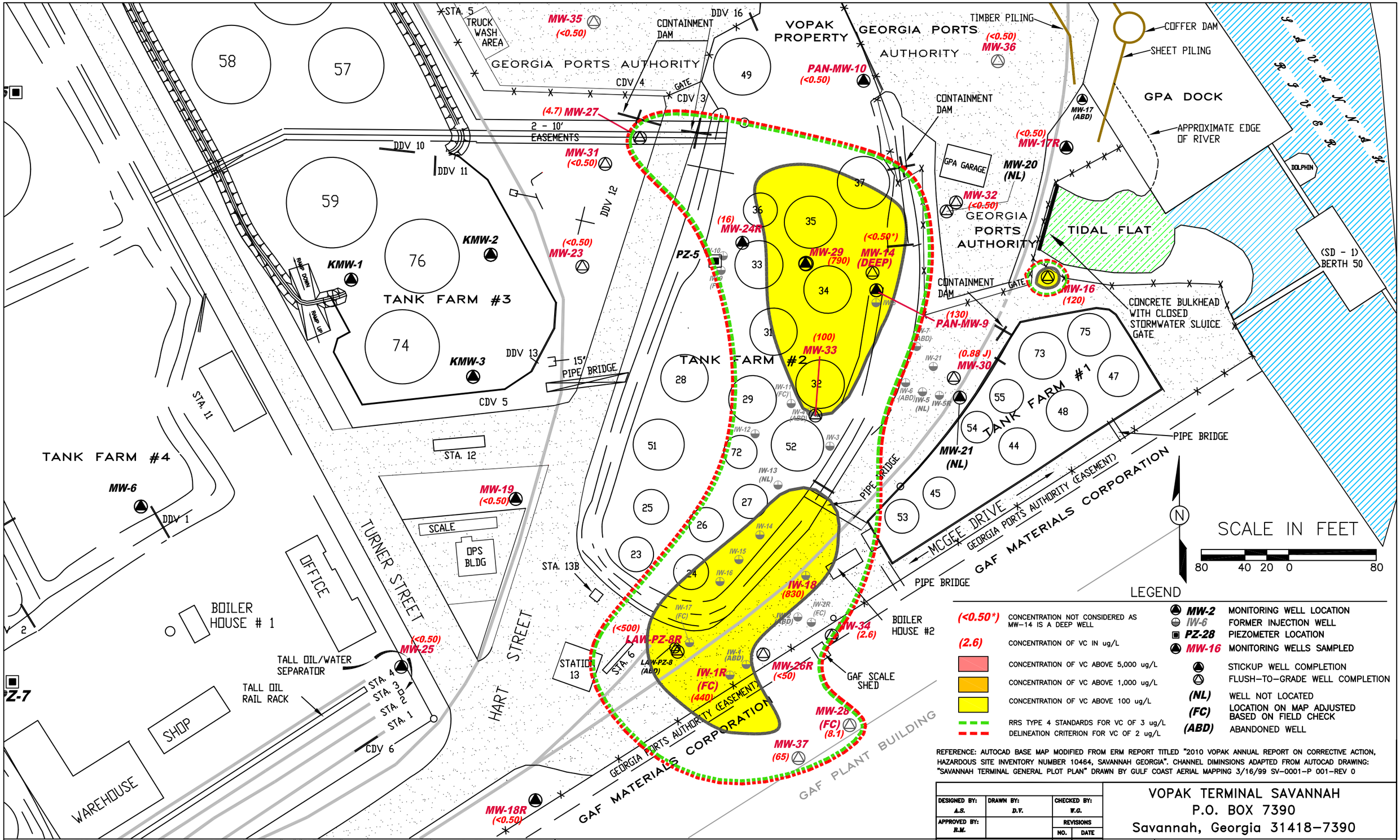
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 04/16/2015 | 390020 - 8TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.50*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (2.6) | CONCENTRATION OF VC IN ug/L |
| | CONCENTRATION OF VC ABOVE 5,000 ug/L |
| | CONCENTRATION OF VC ABOVE 1,000 ug/L |
| | CONCENTRATION OF VC ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR VC OF 3 ug/L |
| | DELINEATION CRITERION FOR VC OF 2 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-4:
# VINYL CHLORIDE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: D.V. | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

SEAL:

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Savannah, Georgia 31418-7390

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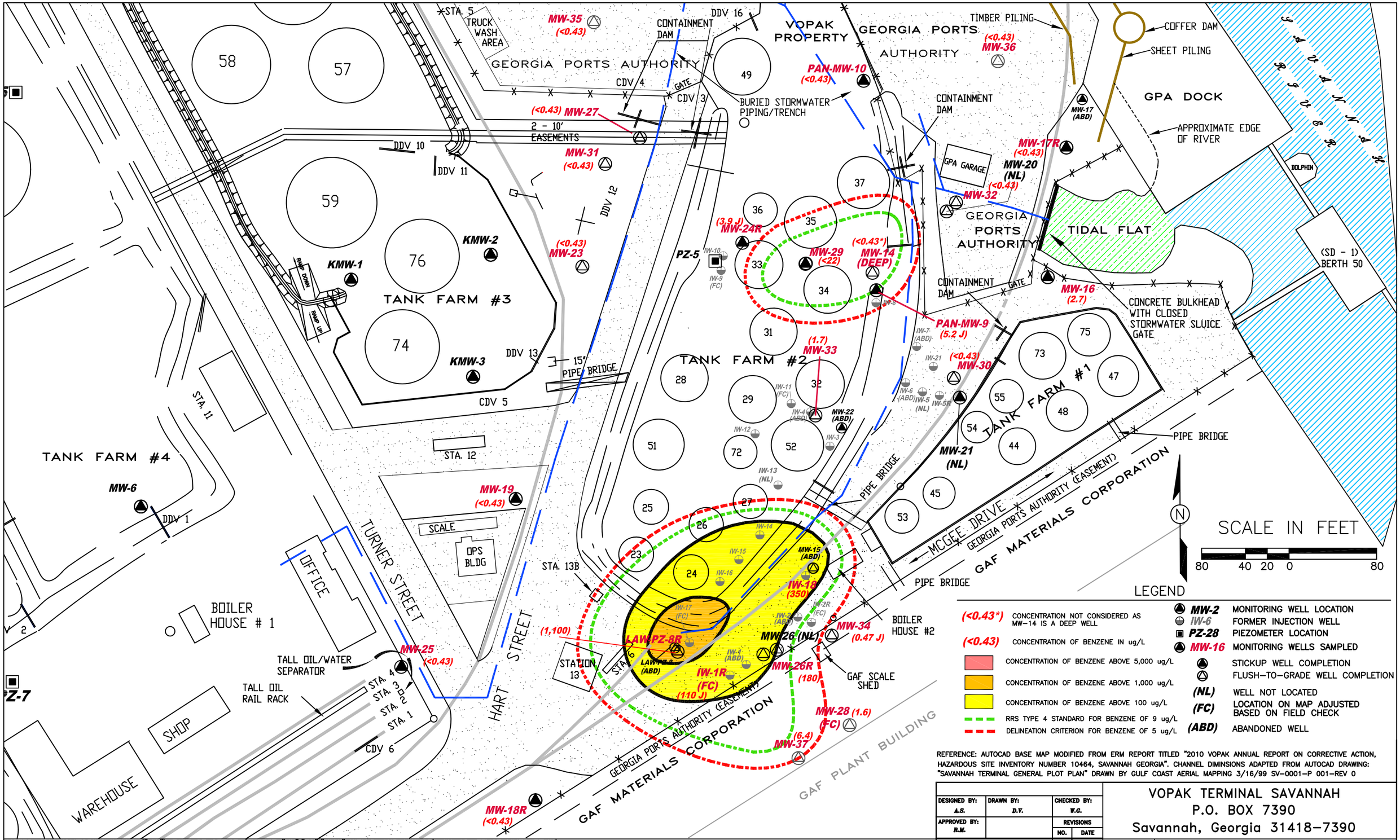
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 04/16/2015 | 390020 - 8TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.43*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (<0.43) | CONCENTRATION OF BENZENE IN ug/L |
| | CONCENTRATION OF BENZENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF BENZENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF BENZENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR BENZENE OF 9 ug/L |
| | DELINEATION CRITERION FOR BENZENE OF 5 ug/L |

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-5:
# BENZENE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: D.V. | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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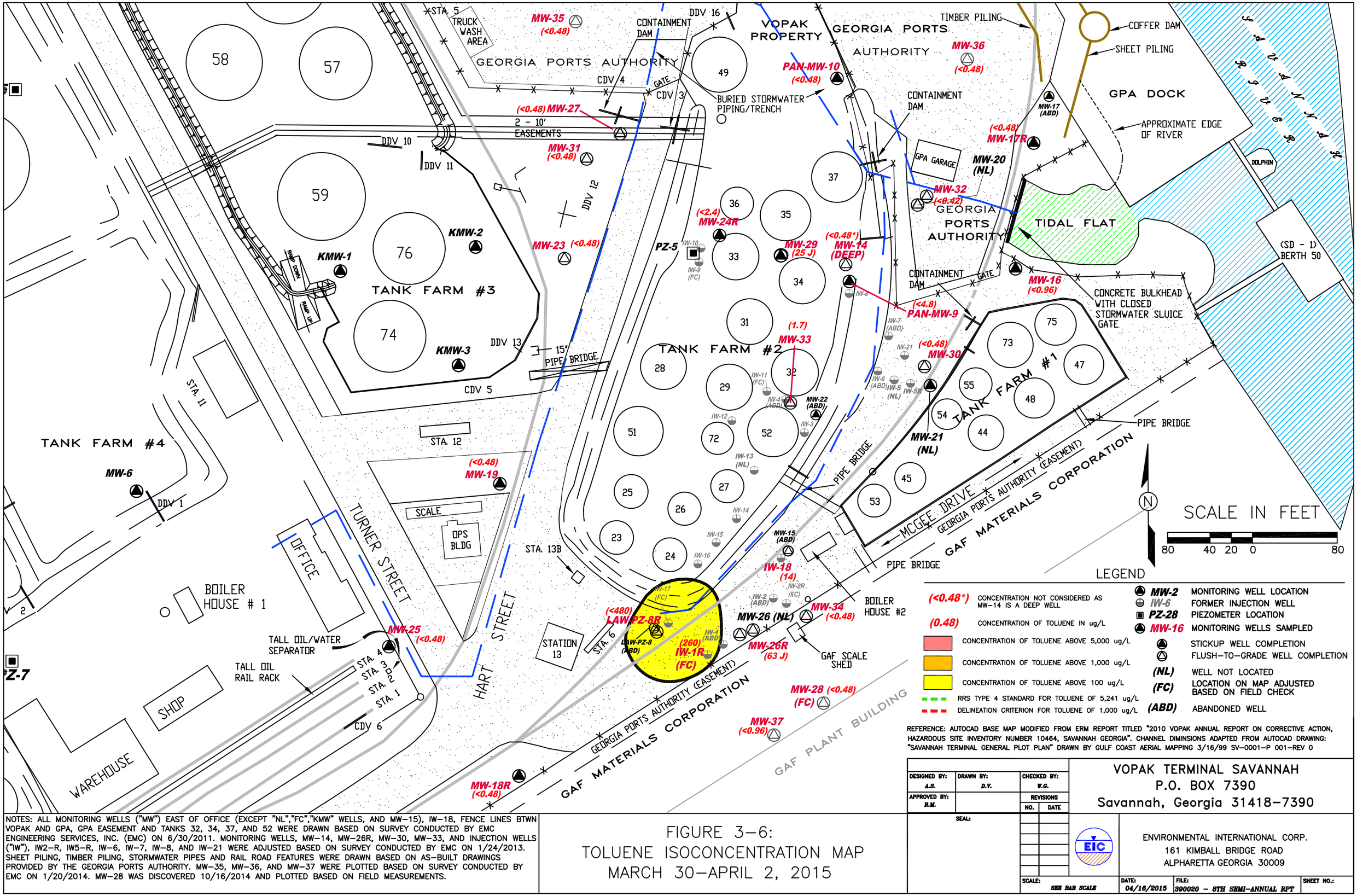
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 04/16/2015 | 390020 - 8TH SEMI-ANNUAL RPT | |




## LEGEND

| | |
|---|---|
| (<0.48*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.48) | CONCENTRATION OF TOLUENE IN ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF TOLUENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR TOLUENE OF 5,241 ug/L |
| | DELINEATION CRITERION FOR TOLUENE OF 1,000 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-6:
# TOLUENE ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | D.V. | W.G. |
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

SEAL:

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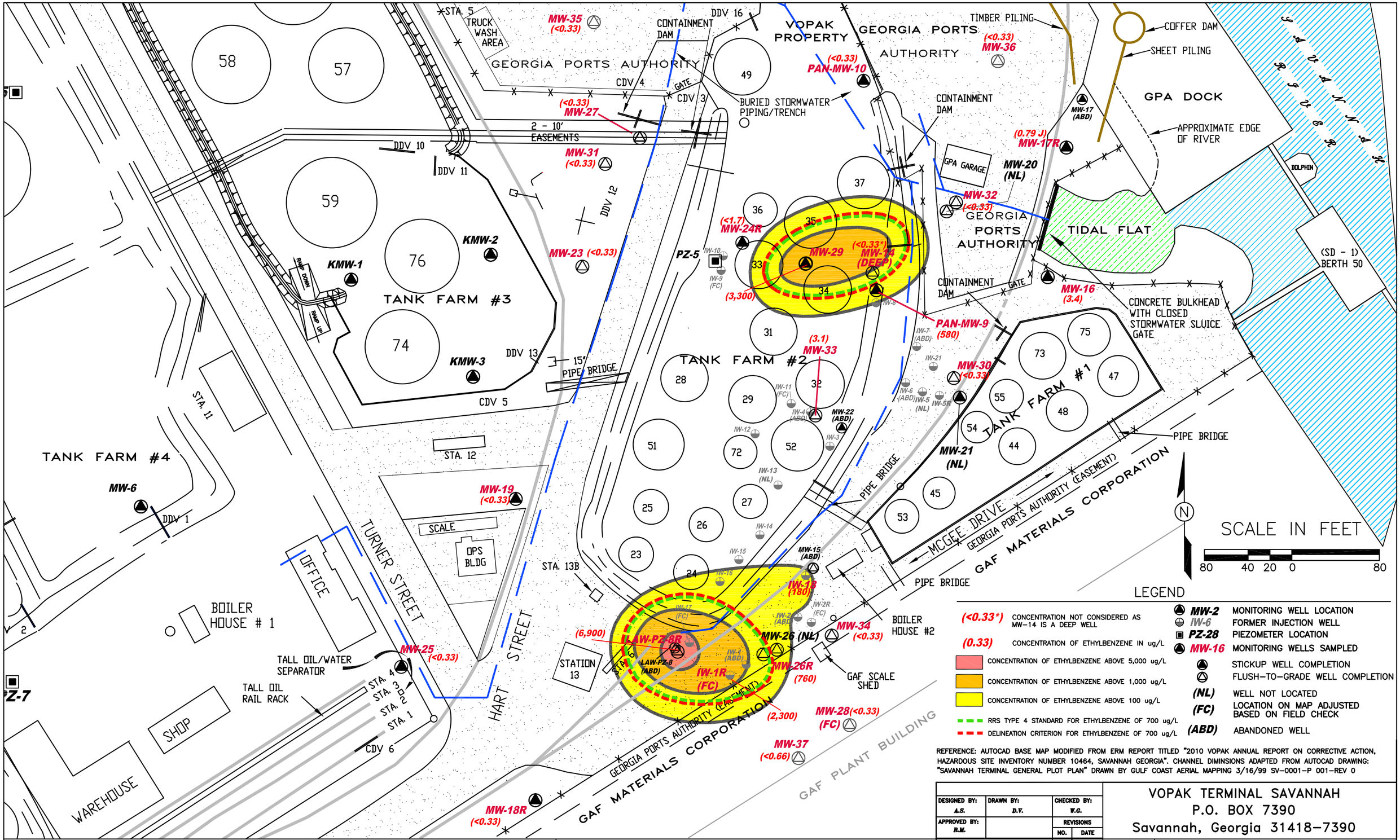
ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 04/16/2015 | 390020 - 8TH SEMI-ANNUAL RPT | |




## LEGEND

| | |
|---|---|
| (<0.33*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.33) | CONCENTRATION OF ETHYLBENZENE IN ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR ETHYLBENZENE OF 700 ug/L |
| | DELINEATION CRITERION FOR ETHYLBENZENE OF 700 ug/L |

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-7:
# ETHYLBENZENE ISOCONCENTTRAION MAP
# MARCH 30-APRIL 2, 2015

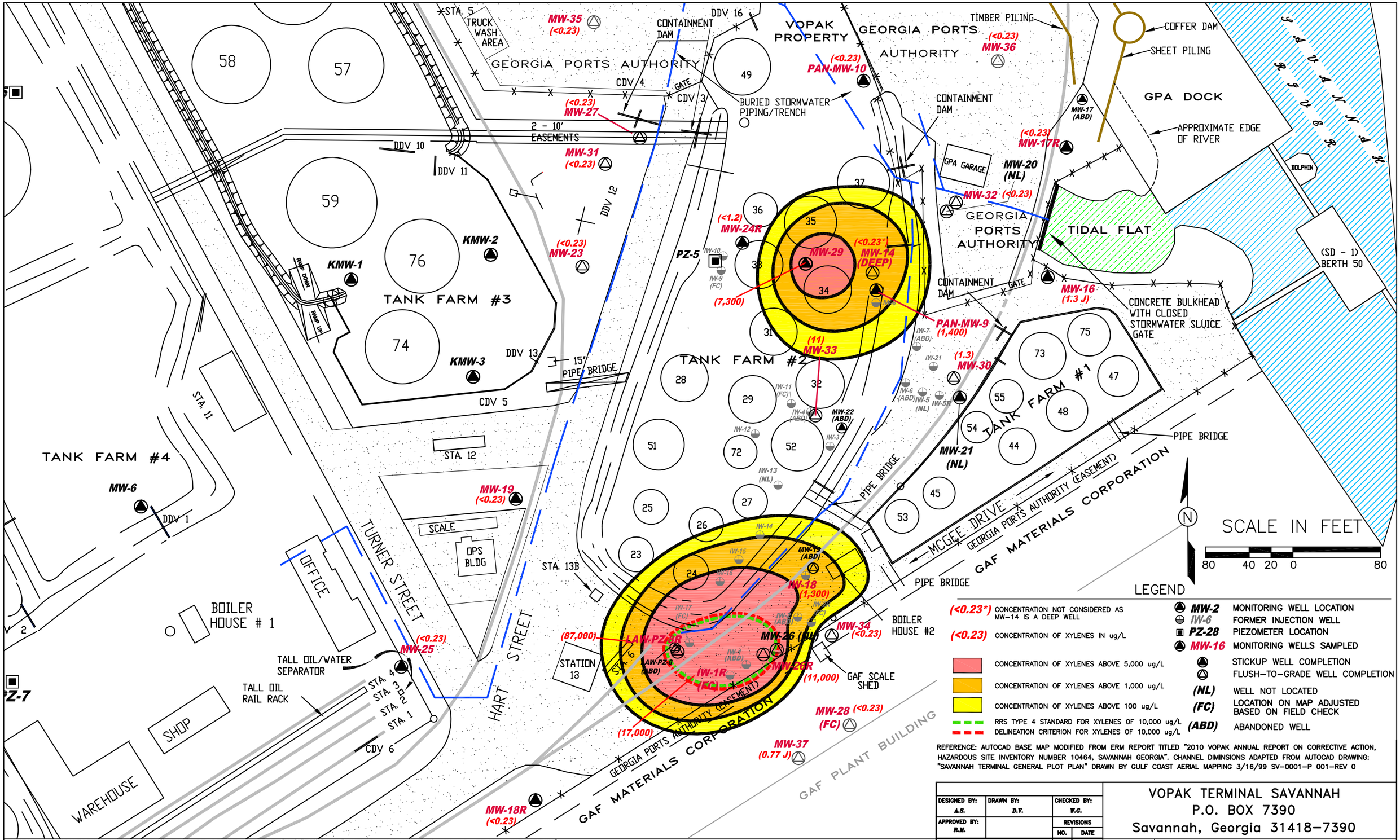
| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: D.V. | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

SEAL:

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 04/16/2015 | 390020 - 8TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.23*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (<0.23) | CONCENTRATION OF XYLENES IN ug/L |
| | CONCENTRATION OF XYLENES ABOVE 5,000 ug/L |
| | CONCENTRATION OF XYLENES ABOVE 1,000 ug/L |
| | CONCENTRATION OF XYLENES ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR XYLENES OF 10,000 ug/L |
| | DELINEATION CRITERION FOR XYLENES OF 10,000 ug/L |

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA". CHANNEL DIMINSIONS ADAPTED FROM AUTOCAD DRAWING: "SAVANNAH TERMINAL GENERAL PLOT PLAN" DRAWN BY GULF COAST AERIAL MAPPING 3/16/99 SV-0001-P 001-REV 0

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-8:
# TOTAL XYLENES ISOCONCENTRATION MAP
# MARCH 30-APRIL 2, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: D.V. | CHECKED BY: W.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

SEAL:

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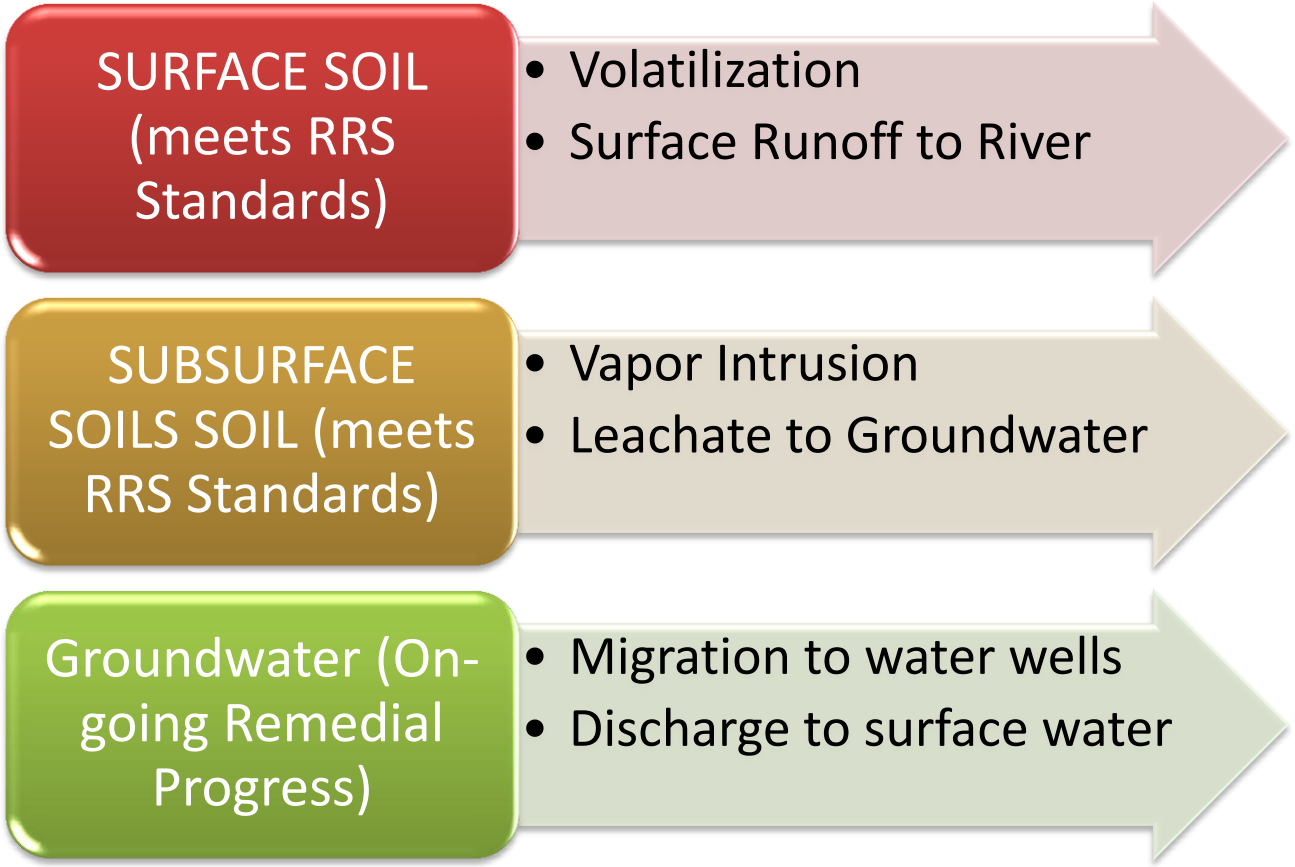
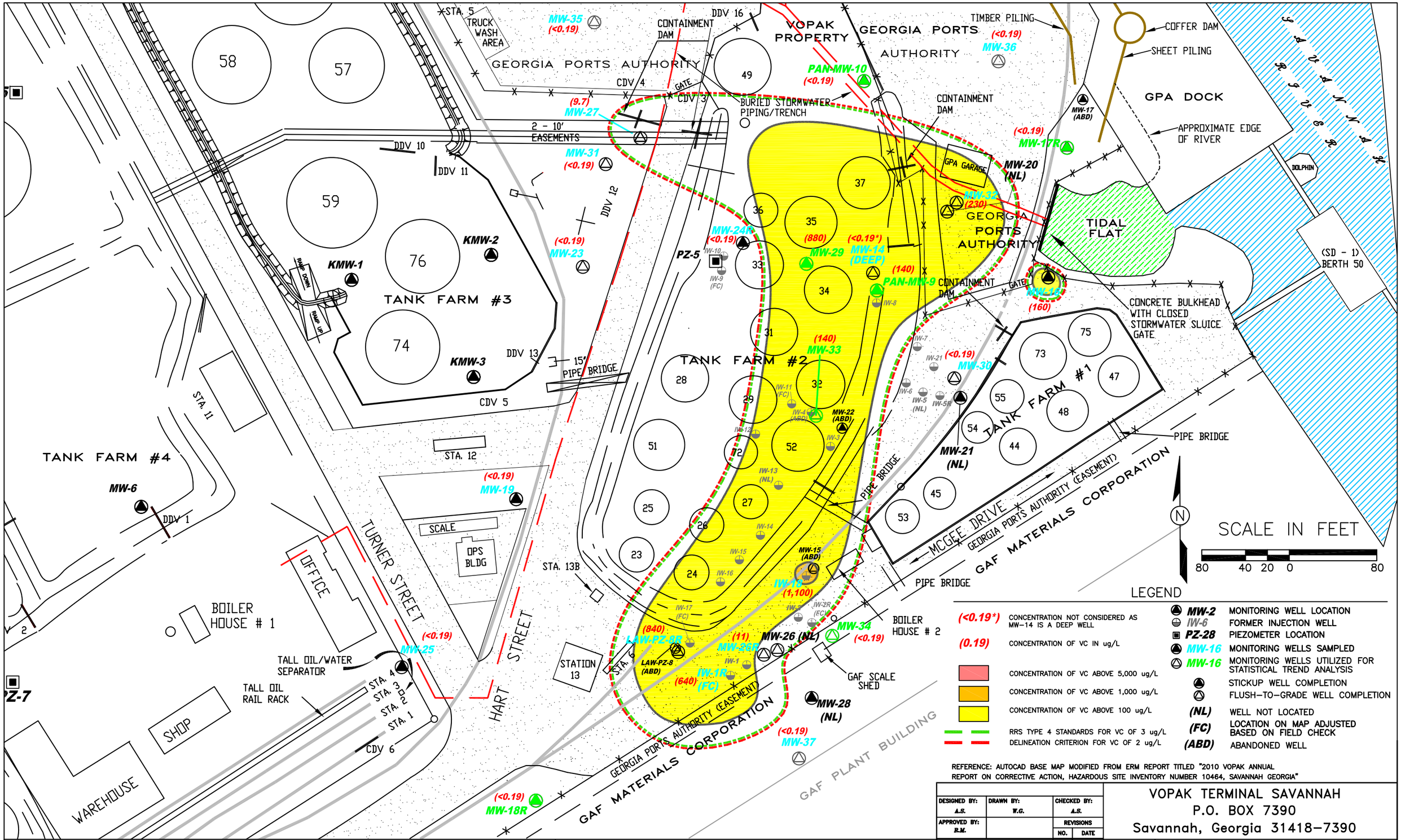
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 04/16/2015 | 390020 - 8TH SEMI-ANNUAL RPT | |

**Figure 4-1: Potential COC Migration Pathways**






LEGEND

| | |
|---|---|
| (<0.19*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.19) | CONCENTRATION OF VC IN ug/L |
| | CONCENTRATION OF VC ABOVE 5,000 ug/L |
| | CONCENTRATION OF VC ABOVE 1,000 ug/L |
| | CONCENTRATION OF VC ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR VC OF 3 ug/L |
| | DELINEATION CRITERION FOR VC OF 2 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| MW-16 | MONITORING WELLS UTILIZED FOR STATISTICAL TREND ANALYSIS |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 6-1a:

## STATISTICAL TREND ANALYSIS WELL UTILIZATION WITH VINYL CHLORIDE PLUME MAP

APRIL 15-17, 2014

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | SCALE: SEE BAR SCALE | DATE: 07/25/2014 |
| | | FILE: 390031 - STAT. TREND ANALYSIS | SHEET NO.: |

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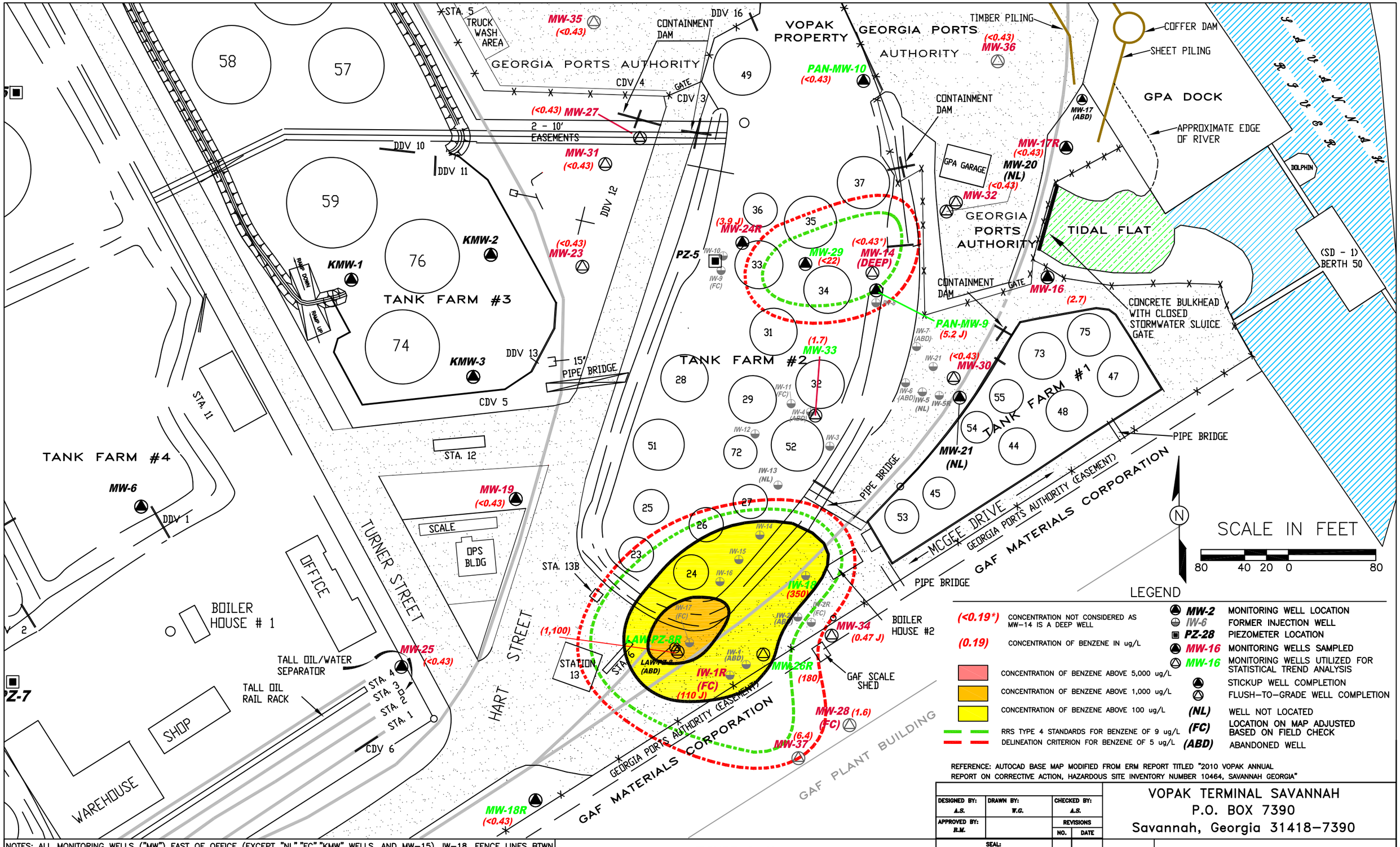


LEGEND

| | |
|---|---|
| (<0.19*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.19) | CONCENTRATION OF BENZENE IN ug/L |
| | CONCENTRATION OF BENZENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF BENZENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF BENZENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR BENZENE OF 9 ug/L |
| | DELINEATION CRITERION FOR BENZENE OF 5 ug/L |

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| MW-16 | MONITORING WELLS UTILIZED FOR STATISTICAL TREND ANALYSIS |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. SHEET PILING, TIMBER PILING, STORMWATER PIPES AND RAIL ROAD FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. THE ABONDONMENT OF IW-2 WAS HALTED IN DEC. 2013 AFTER THE DISCOVERY OF A NEARBY RHODIMET PIPELINE. THEREFORE, IW-2 IS CURRENTLY PARTIALLY ABANDONED. MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014.

# FIGURE 6-1b:
## STATISTICAL TREND ANALYSIS WELL UTILIZATION WITH BENZENE PLUME MAP
## MARCH 30 – APRIL 2, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: W.G. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

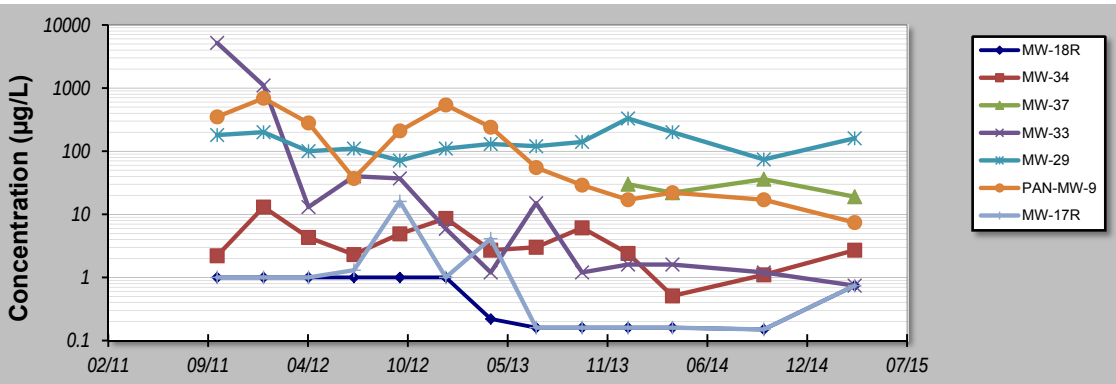
| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/24/2015 | 390031 - STAT. TREND ANALYSIS | |

# Figure 6-2: PCE Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | PCE |
| Conducted By: | EIC | Concentration Units: | µg/L |

| Sampling Point ID: | MW-18R | MW-34 | MW-37 | MW-33 | MW-29 | PAN-MW-9 | MW-17R |
|---|---|---|---|---|---|---|---|
| Sampling Event | Sampling Date | PCE CONCENTRATION (µg/L) | | | | | | |
| 1 | 2-Oct-11 | 1 | 2.2 | not installed | 5200 | 180 | 350 | 1 |
| 2 | 3-Jan-12 | 1 | 13 | not installed | 1100 | 200 | 690 | 1 |
| 3 | 2-Apr-12 | 1 | 4.3 | not installed | 13 | 100 | 280 | 1 |
| 4 | 2-Jul-12 | 1 | 2.3 | not installed | 40 | 110 | 37 | 1.3 |
| 5 | 2-Oct-12 | 1 | 4.9 | not installed | 37 | 71 | 210 | 16 |
| 6 | 2-Jan-13 | 1 | 8.6 | not installed | 5.9 | 110 | 540 | 1 |
| 7 | 2-Apr-13 | 0.22 | 2.7 | not installed | 1.2 | 130 | 240 | 4.1 |
| 8 | 2-Jul-13 | 0.16 | 3 | not installed | 15 | 120 | 55 | 0.16 |
| 9 | 2-Oct-13 | 0.16 | 6.1 | not installed | 1.2 | 140 | 29 | 0.16 |
| 10 | 2-Jan-14 | 0.16 | 2.4 | 30 | 1.6 | 330 | 17 | 0.16 |
| 11 | 1-Apr-14 | 0.16 | 0.51 | 22 | 1.6 | 200 | 22 | 0.16 |
| 12 | 1-Oct-14 | 0.15 | 1.1 | 36 | 1.2 | 74 | 17 | 0.15 |
| 13 | 1-Apr-15 | 0.74 | 2.7 | 19 | 0.74 | 160 | 7.4 | 0.74 |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| Coefficient of Variation: | | 0.70 | 0.83 | 0.29 | 2.93 | 0.47 | 1.16 | 2.08 |
| Mann-Kendall Statistic (S): | | -45 | -19 | -2 | -56 | 12 | -57 | -32 |
| Confidence Factor: | | 99.8% | 86.1% | 62.5% | >99.9% | 74.5% | >99.9% | 97.1% |
| Concentration Trend: | | Decreasing | Stable | Stable | Decreasing | No Trend | Decreasing | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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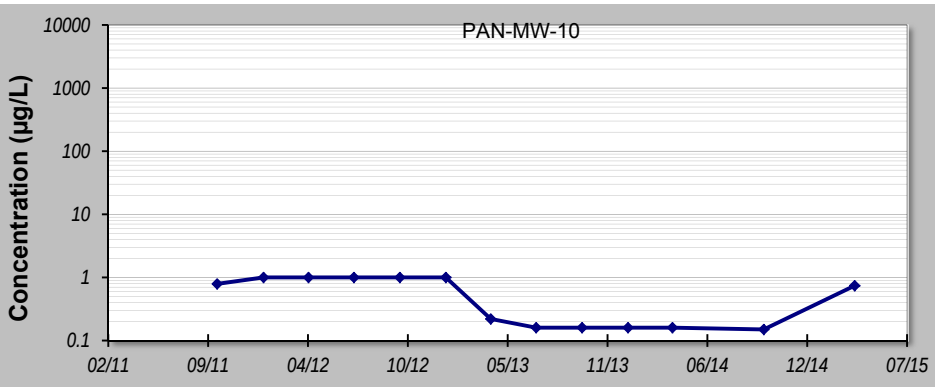
# Figure 6-2: PCE Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | PCE |
| Conducted By: | EIC | Concentration Units: | µg/L |

Sampling Point ID: **PAN-MW-10**

| Sampling Event | Sampling Date | PCE CONCENTRATION (µg/L) |
|---|---|---|
| 1 | 2-Oct-11 | 0.79 |
| 2 | 3-Jan-12 | 1 |
| 3 | 2-Apr-12 | 1 |
| 4 | 2-Jul-12 | 1 |
| 5 | 2-Oct-12 | 1 |
| 6 | 2-Jan-13 | 1 |
| 7 | 2-Apr-13 | 0.22 |
| 8 | 2-Jul-13 | 0.16 |
| 9 | 2-Oct-13 | 0.16 |
| 10 | 2-Jan-14 | 0.16 |
| 11 | 1-Apr-14 | 0.16 |
| 12 | 1-Oct-14 | 0.15 |
| 13 | 1-Apr-15 | 0.74 |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| Coefficient of Variation: | | 0.70 |
| Mann-Kendall Statistic (S): | | -40 |
| Confidence Factor: | | 99.3% |
| Concentration Trend: | | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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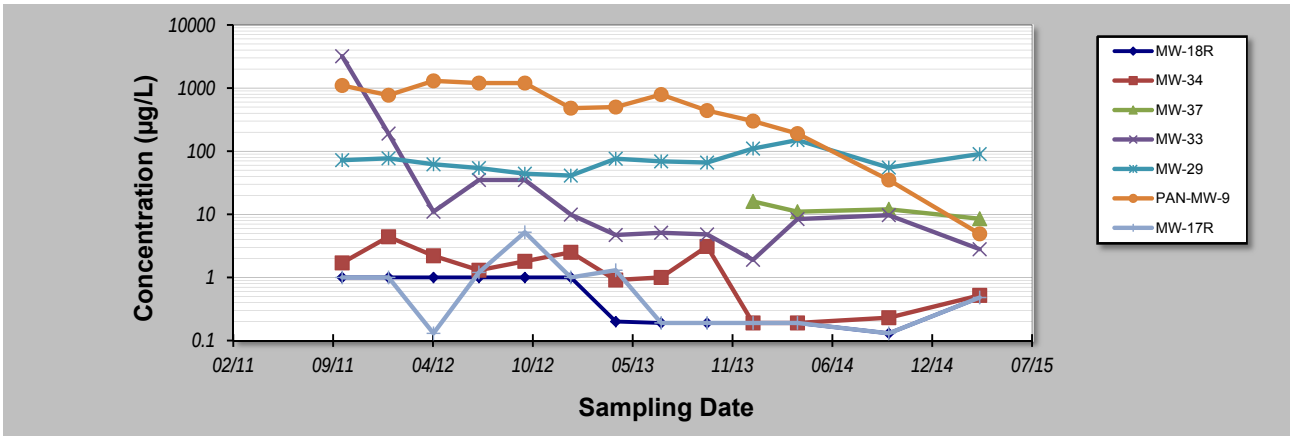
# Figure 6-3: TCE Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | TCE |
| Conducted By: | EIC | Concentration Units: | µg/L |

| Sampling Point ID: | MW-18R | MW-34 | MW-37 | MW-33 | MW-29 | PAN-MW-9 | MW-17R |
|---|---|---|---|---|---|---|---|
| Sampling Event | Sampling Date | TCE CONCENTRATION (µg/L) | | | | | | |
| 1 | 2-Oct-11 | 1 | 1.7 | Not Installed | 3200 | 72 | 1100 | 1 |
| 2 | 3-Jan-12 | 1 | 4.4 | Not Installed | 190 | 77 | 770 | 1 |
| 3 | 2-Apr-12 | 1 | 2.2 | Not Installed | 11 | 62 | 1300 | 0.13 |
| 4 | 2-Jul-12 | 1 | 1.3 | Not Installed | 35 | 54 | 1200 | 1.2 |
| 5 | 2-Oct-12 | 1 | 1.8 | Not Installed | 35 | 44 | 1200 | 5.2 |
| 6 | 2-Jan-13 | 1 | 2.5 | Not Installed | 9.9 | 41 | 480 | 1 |
| 7 | 2-Apr-13 | 0.20 | 0.91 | Not Installed | 4.7 | 76 | 500 | 1.3 |
| 8 | 2-Jul-13 | 0.19 | 1 | Not Installed | 5.1 | 69 | 790 | 0.19 |
| 9 | 2-Oct-13 | 0.19 | 3.1 | Not Installed | 4.8 | 66 | 440 | 0.19 |
| 10 | 2-Jan-14 | 0.19 | 0.19 | 16 | 1.9 | 110 | 300 | 0.19 |
| 11 | 1-Apr-14 | 0.19 | 0.19 | 11 | 8.4 | 150 | 190 | 0.19 |
| 12 | 1-Oct-14 | 0.13 | 0.23 | 12 | 9.7 | 55 | 35 | 0.13 |
| 13 | 1-Apr-15 | 0.48 | 0.52 | 8.5 | 2.8 | 90 | 4.9 | 0.48 |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| Coefficient of Variation: | | 0.71 | 0.82 | 0.26 | 3.26 | 0.39 | 0.71 | 1.45 |
| Mann-Kendall Statistic (S): | | -45 | -35 | -4 | -49 | 14 | -57 | -22 |
| Confidence Factor: | | 99.8% | 98.2% | 83.3% | 99.9% | 78.2% | >99.9% | 89.8% |
| Concentration Trend: | | Decreasing | Decreasing | Stable | Decreasing | No Trend | Decreasing | No Trend |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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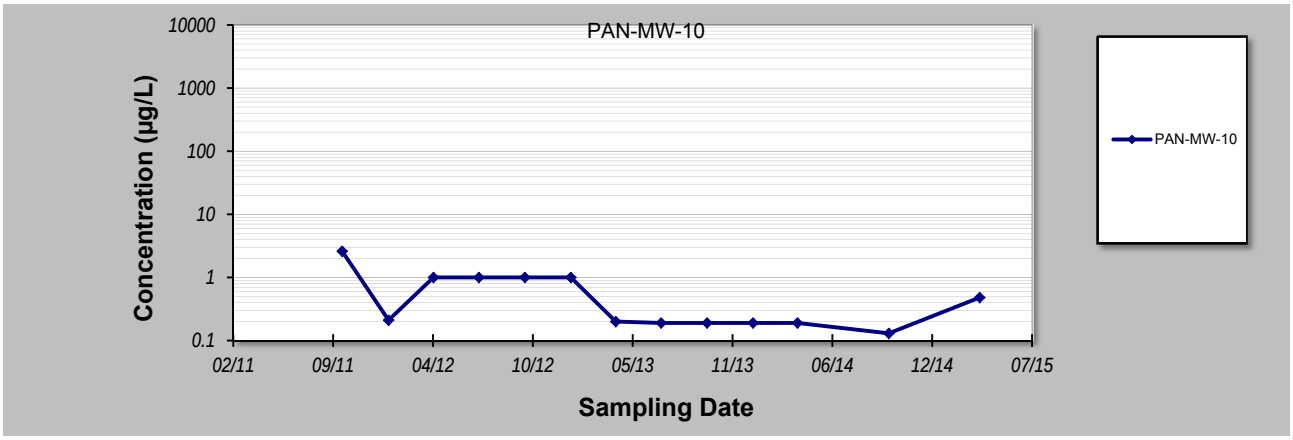
# Figure 6-3: TCE Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | TCE |
| Conducted By: | EIC | Concentration Units: | µg/L |

Sampling Point ID: **PAN-MW-10**

| Sampling Event | Sampling Date | TCE CONCENTRATION (µg/L) |
|---|---|---|
| 1 | 2-Oct-11 | 2.6 |
| 2 | 3-Jan-12 | 0.21 |
| 3 | 2-Apr-12 | 1 |
| 4 | 2-Jul-12 | 1 |
| 5 | 2-Oct-12 | 1 |
| 6 | 2-Jan-13 | 1 |
| 7 | 2-Apr-13 | 0.2 |
| 8 | 2-Jul-13 | 0.19 |
| 9 | 2-Oct-13 | 0.19 |
| 10 | 2-Jan-14 | 0.19 |
| 11 | 1-Apr-14 | 0.19 |
| 12 | 1-Oct-14 | 0.13 |
| 13 | 1-Apr-15 | 0.48 |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| Coefficient of Variation: | | 1.08 |
| Mann-Kendall Statistic (S): | | -44 |
| Confidence Factor: | | 99.7% |
| Concentration Trend: | | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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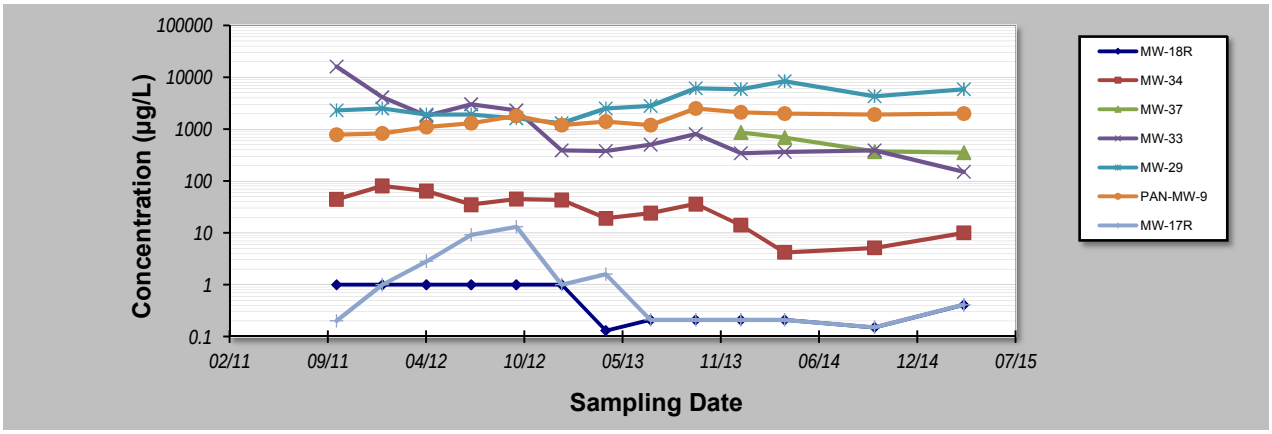
# Figure 6-4: DCE Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | DCE |
| Conducted By: | EIC | Concentration Units: | µg/L |

| Sampling Point ID: | MW-18R | MW-34 | MW-37 | MW-33 | MW-29 | PAN-MW-9 | MW-17R |
|---|---|---|---|---|---|---|---|
| Sampling Event | Sampling Date | DCE CONCENTRATION (µg/L) | | | | | | |
| 1 | 2-Oct-11 | 1 | 44 | Not Installed | 16000 | 2300 | 780 | 0.20 |
| 2 | 3-Jan-12 | 1 | 80 | Not Installed | 4100 | 2500 | 820 | 1 |
| 3 | 2-Apr-12 | 1 | 64 | Not Installed | 1800 | 1900 | 1100 | 2.8 |
| 4 | 2-Jul-12 | 1 | 35 | Not Installed | 3000 | 1900 | 1300 | 9.2 |
| 5 | 2-Oct-12 | 1 | 45 | Not Installed | 2300 | 1600 | 1800 | 13 |
| 6 | 2-Jan-13 | 1 | 43 | Not Installed | 390 | 1300 | 1200 | 1 |
| 7 | 2-Apr-13 | 0.13 | 19 | Not Installed | 380 | 2500 | 1400 | 1.6 |
| 8 | 2-Jul-13 | 0.21 | 24 | Not Installed | 500 | 2800 | 1200 | 0.21 |
| 9 | 2-Oct-13 | 0.21 | 36 | Not Installed | 800 | 6100 | 2500 | 0.21 |
| 10 | 2-Jan-14 | 0.21 | 14 | 860 | 340 | 5900 | 2100 | 0.21 |
| 11 | 1-Apr-14 | 0.21 | 4.2 | 690 | 360 | 8400 | 2000 | 0.21 |
| 12 | 1-Oct-14 | 0.15 | 5.1 | 370 | 390 | 4300 | 1900 | 0.15 |
| 13 | 1-Apr-15 | 0.41 | 9.9 | 350 | 150 | 5900 | 2000 | 0.41 |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| Coefficient of Variation: | | 0.71 | 0.71 | 0.44 | 1.83 | 0.61 | 0.35 | 1.74 |
| Mann-Kendall Statistic (S): | | -35 | -54 | -6 | -55 | 37 | 48 | -23 |
| Confidence Factor: | | 98.2% | >99.9% | 95.8% | >99.9% | 98.7% | 99.9% | 90.8% |
| Concentration Trend: | | Decreasing | Decreasing | Decreasing | Decreasing | Increasing | Increasing | Prob. Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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# Figure 6-4: DCE Mann-Kendall Constituent Trend Analysis

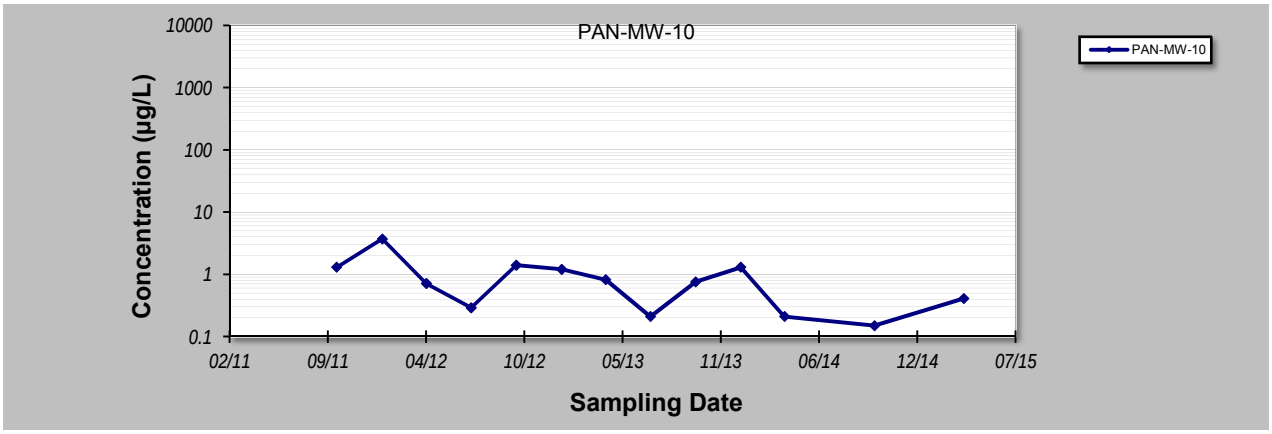
## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

Evaluation Date: **11-Jun-15**
Facility Name: **VOPAK, Savannah Terminal**
Conducted By: **EIC**

Job ID: **390031**
Constituent: **DCE**
Concentration Units: **µg/L**

Sampling Point ID: **PAN-MW-10**

| Sampling Event | Sampling Date | DCE CONCENTRATION (µg/L) |
|---|---|---|
| 1 | 2-Oct-11 | 1.3 |
| 2 | 3-Jan-12 | 3.7 |
| 3 | 2-Apr-12 | 0.71 |
| 4 | 2-Jul-12 | 0.29 |
| 5 | 2-Oct-12 | 1.4 |
| 6 | 2-Jan-13 | 1.2 |
| 7 | 2-Apr-13 | 0.82 |
| 8 | 2-Jul-13 | 0.21 |
| 9 | 2-Oct-13 | 0.76 |
| 10 | 2-Jan-14 | 1.3 |
| 11 | 1-Apr-14 | 0.21 |
| 12 | 1-Oct-14 | 0.15 |
| 13 | 1-Apr-15 | 0.41 |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| Coefficient of Variation: | | 0.98 |
| Mann-Kendall Statistic (S): | | -34 |
| Confidence Factor: | | 97.9% |
| Concentration Trend: | | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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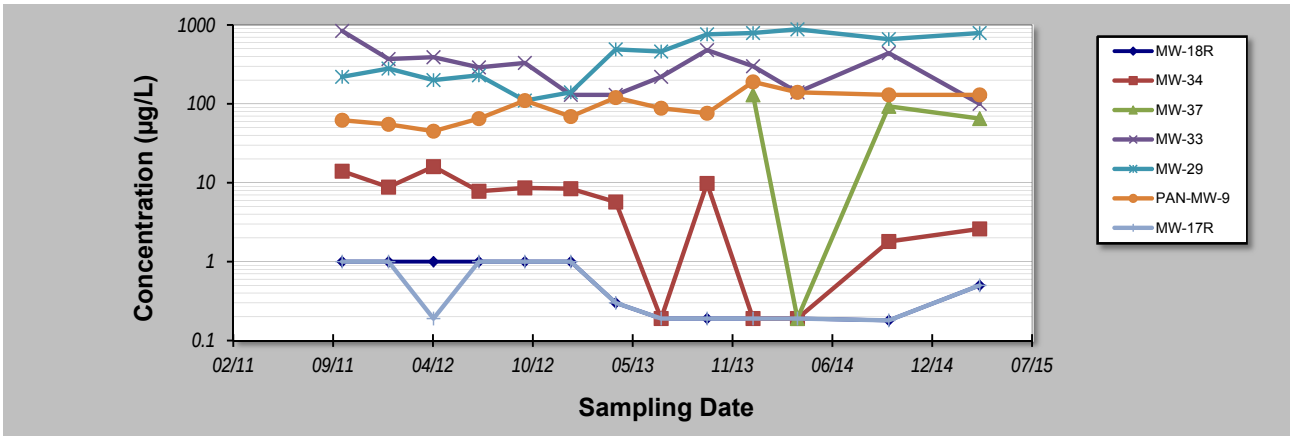
# Figure 6-5: VC Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | VC |
| Conducted By: | EIC | Concentration Units: | µg/L |

| Sampling Point ID: | MW-18R | MW-34 | MW-37 | MW-33 | MW-29 | PAN-MW-9 | MW-17R |
|---|---|---|---|---|---|---|---|
| Sampling Event | Sampling Date | VC CONCENTRATION (µg/L) | | | | | | |
| 1 | 2-Oct-11 | 1 | 14 | Not Installed | 840 | 220 | 62 | 1 |
| 2 | 3-Jan-12 | 1 | 8.8 | Not Installed | 370 | 280 | 55 | 1 |
| 3 | 2-Apr-12 | 1 | 16 | Not Installed | 390 | 200 | 45 | 0.19 |
| 4 | 2-Jul-12 | 1 | 7.8 | Not Installed | 290 | 230 | 65 | 1 |
| 5 | 2-Oct-12 | 1 | 8.6 | Not Installed | 330 | 110 | 110 | 1 |
| 6 | 2-Jan-13 | 1 | 8.4 | Not Installed | 130 | 140 | 69 | 1 |
| 7 | 2-Apr-13 | 0.30 | 5.7 | Not Installed | 130 | 490 | 120 | 0.30 |
| 8 | 2-Jul-13 | 0.19 | 0.19 | Not Installed | 220 | 460 | 88 | 0.19 |
| 9 | 2-Oct-13 | 0.19 | 9.8 | Not Installed | 480 | 760 | 76 | 0.19 |
| 10 | 2-Jan-14 | 0.19 | 0.19 | 130 | 300 | 790 | 190 | 0.19 |
| 11 | 1-Apr-14 | 0.19 | 0.19 | 0.19 | 140 | 880 | 140 | 0.19 |
| 12 | 1-Oct-14 | 0.18 | 1.8 | 93 | 440 | 660 | 130 | 0.18 |
| 13 | 1-Apr-15 | 0.50 | 2.6 | 65 | 100 | 790 | 130 | 0.50 |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| Coefficient of Variation: | | 0.67 | 0.81 | 0.76 | 0.63 | 0.61 | 0.43 | 0.74 |
| Mann-Kendall Statistic (S): | | -45 | -41 | -2 | -25 | 45 | 49 | -36 |
| Confidence Factor: | | 99.8% | 99.4% | 62.5% | 92.7% | 99.8% | 99.9% | 98.5% |
| Concentration Trend: | | Decreasing | Decreasing | Stable | Prob. Decreasing | Increasing | Increasing | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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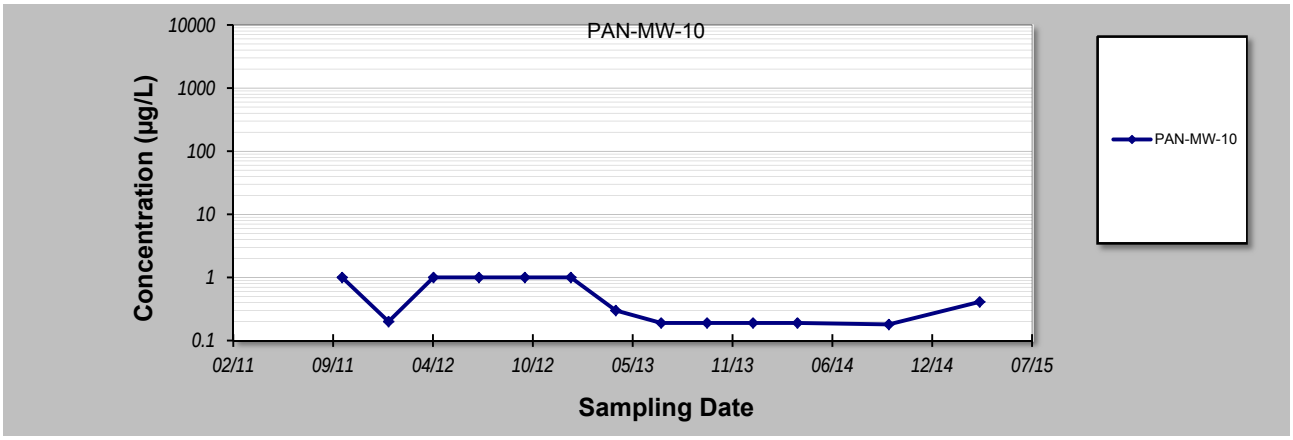
# Figure 6-5: VC Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

Evaluation Date: **11-Jun-15**
Facility Name: **VOPAK, Savannah Terminal**
Conducted By: **EIC**
Job ID: **390031**
Constituent: **VC**
Concentration Units: **µg/L**
Sampling Point ID: **PAN-MW-10**

| Sampling Event | Sampling Date | VC CONCENTRATION (µg/L) |
|---|---|---|
| 1 | 2-Oct-11 | 1 |
| 2 | 3-Jan-12 | 0.2 |
| 3 | 2-Apr-12 | 1 |
| 4 | 2-Jul-12 | 1 |
| 5 | 2-Oct-12 | 1 |
| 6 | 2-Jan-13 | 1 |
| 7 | 2-Apr-13 | 0.3 |
| 8 | 2-Jul-13 | 0.19 |
| 9 | 2-Oct-13 | 0.19 |
| 10 | 2-Jan-14 | 0.19 |
| 11 | 1-Apr-14 | 0.19 |
| 12 | 1-Oct-14 | 0.18 |
| 13 | 1-Apr-15 | 0.41 |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| Coefficient of Variation: | | 0.75 |
| Mann-Kendall Statistic (S): | | -38 |
| Confidence Factor: | | 98.9% |
| Concentration Trend: | | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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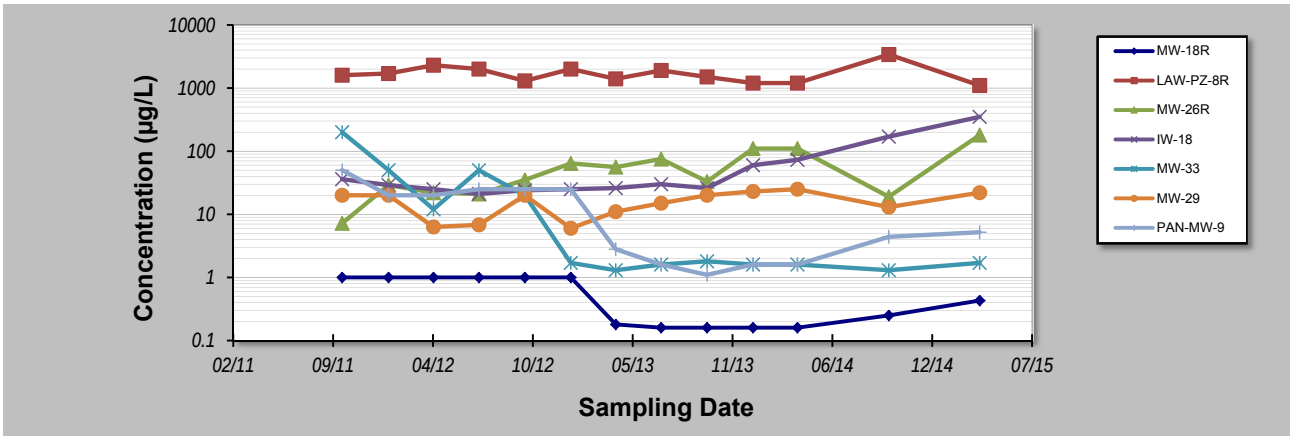
# Figure 6-6: Benzene Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

Evaluation Date: 11-Jun-15
Facility Name: VOPAK, Savannah Terminal
Conducted By: EIC

Job ID: 390031
Constituent: Benzene
Concentration Units: µg/L

| Sampling Point ID: | MW-18R | LAW-PZ-8R | MW-26R | IW-18 | MW-33 | MW-29 | PAN-MW-9 |
|---|---|---|---|---|---|---|---|
| Sampling Event | Sampling Date | BENZENE CONCENTRATION (µg/L) | | | | | | |
| 1 | 2-Oct-11 | 1 | 1600 | 7.2 | 36 | 200 | 20 | 50 |
| 2 | 3-Jan-12 | 1 | 1700 | 29 | 29 | 50 | 20 | 20 |
| 3 | 2-Apr-12 | 1 | 2300 | 22 | 25 | 12 | 6.3 | 20 |
| 4 | 2-Jul-12 | 1 | 2000 | 21 | 21 | 50 | 6.8 | 25 |
| 5 | 2-Oct-12 | 1 | 1300 | 35 | 24 | 20 | 20 | 25 |
| 6 | 2-Jan-13 | 1 | 2000 | 64 | 25 | 1.7 | 6 | 25 |
| 7 | 2-Apr-13 | 0.18 | 1400 | 56 | 26 | 1.3 | 11 | 2.8 |
| 8 | 2-Jul-13 | 0.16 | 1900 | 75 | 30 | 1.6 | 15 | 1.6 |
| 9 | 2-Oct-13 | 0.16 | 1500 | 33 | 26 | 1.8 | 20 | 1.1 |
| 10 | 2-Jan-14 | 0.16 | 1200 | 110 | 60 | 1.6 | 23 | 1.6 |
| 11 | 1-Apr-14 | 0.16 | 1200 | 110 | 73 | 1.6 | 25 | 1.6 |
| 12 | 1-Oct-14 | 0.25 | 3400 | 19 | 170 | 1.3 | 13 | 4.4 |
| 13 | 1-Apr-15 | 0.43 | 1100 | 180 | 350 | 1.7 | 22 | 5.2 |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| Coefficient of Variation: | | 0.72 | 0.36 | 0.85 | 1.36 | 2.08 | 0.42 | 1.05 |
| Mann-Kendall Statistic (S): | | -35 | -24 | 41 | 42 | -46 | 24 | -33 |
| Confidence Factor: | | 98.2% | 91.8% | 99.4% | 99.5% | 99.8% | 91.8% | 97.5% |
| Concentration Trend: | | Decreasing | Prob. Decreasing | Increasing | Increasing | Decreasing | Prob. Increasing | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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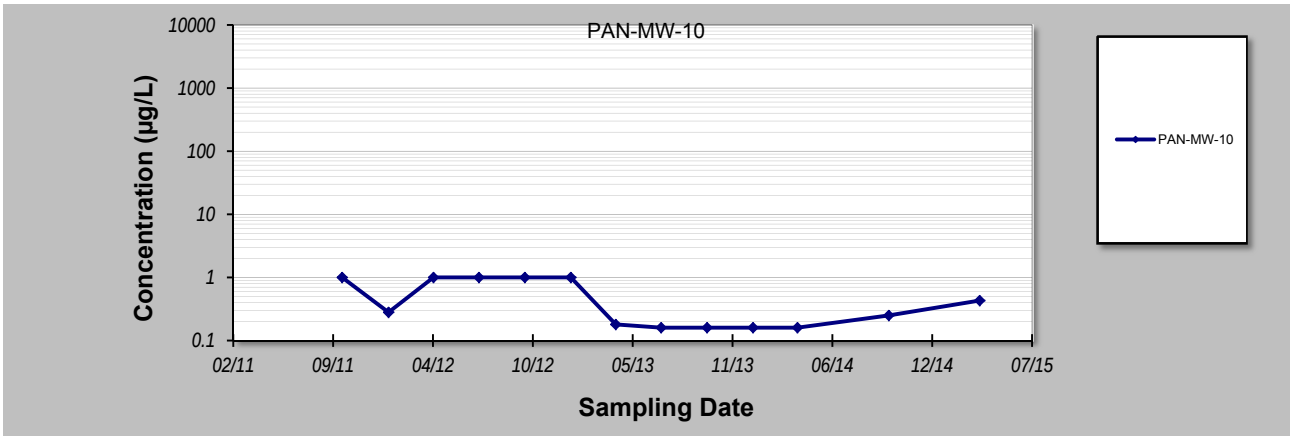
# Figure 6-6: Benzene Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | Benzene |
| Conducted By: | EIC | Concentration Units: | µg/L |

Sampling Point ID: **PAN-MW-10**

| Sampling Event | Sampling Date | BENZENE CONCENTRATION (µg/L) |
|---|---|---|
| 1 | 2-Oct-11 | 1 |
| 2 | 3-Jan-12 | 0.28 |
| 3 | 2-Apr-12 | 1 |
| 4 | 2-Jul-12 | 1 |
| 5 | 2-Oct-12 | 1 |
| 6 | 2-Jan-13 | 1 |
| 7 | 2-Apr-13 | 0.18 |
| 8 | 2-Jul-13 | 0.16 |
| 9 | 2-Oct-13 | 0.16 |
| 10 | 2-Jan-14 | 0.16 |
| 11 | 1-Apr-14 | 0.16 |
| 12 | 1-Oct-14 | 0.25 |
| 13 | 1-Apr-15 | 0.43 |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| Coefficient of Variation: | | 0.77 |
| Mann-Kendall Statistic (S): | | -30 |
| Confidence Factor: | | 96.2% |
| Concentration Trend: | | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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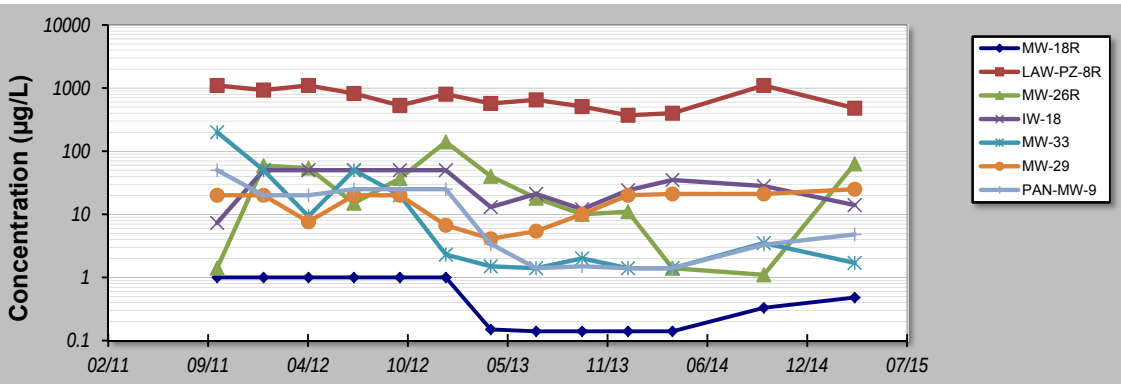
# Figure 6-7: Toluene Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | Toluene |
| Conducted By: | EIC | Concentration Units: | µg/L |

| Sampling Point ID: | MW-18R | LAW-PZ-8R | MW-26R | IW-18 | MW-33 | MW-29 | PAN-MW-9 |
|---|---|---|---|---|---|---|---|
| Sampling Event | Sampling Date | TOLUENE CONCENTRATION (µg/L) | | | | | | |
| 1 | 2-Oct-11 | 1 | 1100 | 1.4 | 7.3 | 200 | 20 | 50 |
| 2 | 3-Jan-12 | 1 | 930 | 59 | 50 | 50 | 20 | 20 |
| 3 | 2-Apr-12 | 1 | 1100 | 54 | 50 | 9.3 | 7.6 | 20 |
| 4 | 2-Jul-12 | 1 | 820 | 15 | 50 | 50 | 20 | 25 |
| 5 | 2-Oct-12 | 1 | 530 | 37 | 50 | 20 | 20 | 25 |
| 6 | 2-Jan-13 | 1 | 800 | 140 | 50 | 2.3 | 6.7 | 25 |
| 7 | 2-Apr-13 | 0.15 | 570 | 40 | 13 | 1.5 | 4.1 | 3.4 |
| 8 | 2-Jul-13 | 0.14 | 650 | 18 | 21 | 1.4 | 5.4 | 1.4 |
| 9 | 2-Oct-13 | 0.14 | 510 | 10 | 12 | 2 | 10 | 1.5 |
| 10 | 2-Jan-14 | 0.14 | 370 | 11 | 24 | 1.4 | 20 | 1.4 |
| 11 | 1-Apr-14 | 0.14 | 400 | 1.4 | 35 | 1.4 | 21 | 1.4 |
| 12 | 1-Oct-14 | 0.33 | 1100 | 1.1 | 28 | 3.5 | 21 | 3.3 |
| 13 | 1-Apr-15 | 0.48 | 480 | 63 | 14 | 1.7 | 25 | 4.8 |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| Coefficient of Variation: | | 0.72 | 0.38 | 1.12 | 0.55 | 2.08 | 0.48 | 1.07 |
| Mann-Kendall Statistic (S): | | -35 | -41 | -19 | -16 | -46 | 21 | -37 |
| Confidence Factor: | | 98.2% | 99.4% | 86.1% | 81.6% | 99.8% | 88.6% | 98.7% |
| Concentration Trend: | | Decreasing | Decreasing | No Trend | Stable | Decreasing | No Trend | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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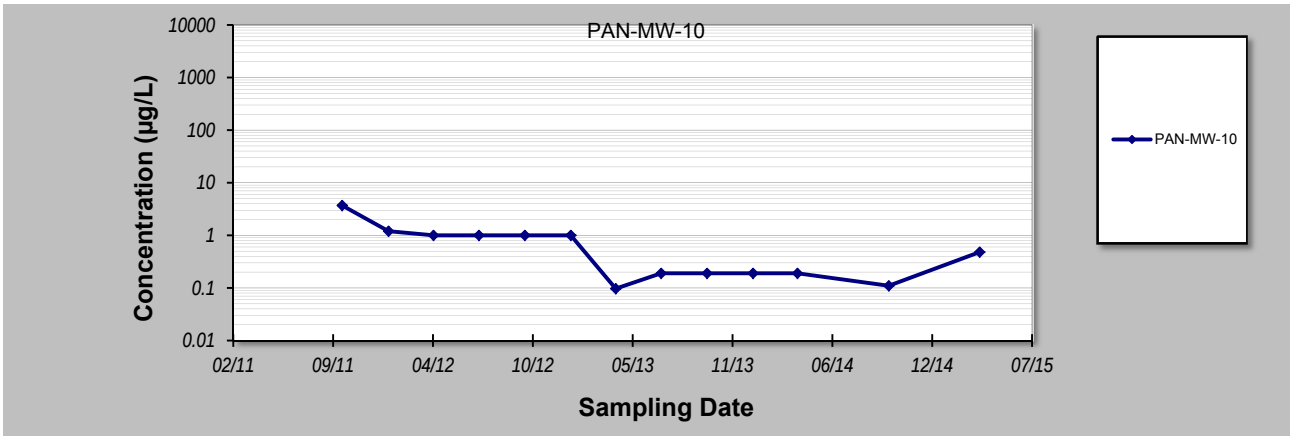
# Figure 6-7: Toluene Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | Toluene |
| Conducted By: | EIC | Concentration Units: | µg/L |

Sampling Point ID: **PAN-MW-10**

| Sampling Event | Sampling Date | TOLUENE CONCENTRATION (µg/L) |
|---|---|---|
| 1 | 2-Oct-11 | 3.7 |
| 2 | 3-Jan-12 | 1.2 |
| 3 | 2-Apr-12 | 1 |
| 4 | 2-Jul-12 | 1 |
| 5 | 2-Oct-12 | 1 |
| 6 | 2-Jan-13 | 1 |
| 7 | 2-Apr-13 | 0.097 |
| 8 | 2-Jul-13 | 0.19 |
| 9 | 2-Oct-13 | 0.19 |
| 10 | 2-Jan-14 | 0.19 |
| 11 | 1-Apr-14 | 0.19 |
| 12 | 1-Oct-14 | 0.11 |
| 13 | 1-Apr-15 | 0.48 |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| Coefficient of Variation: | | 1.22 |
| Mann-Kendall Statistic (S): | | -44 |
| Confidence Factor: | | 99.7% |
| Concentration Trend: | | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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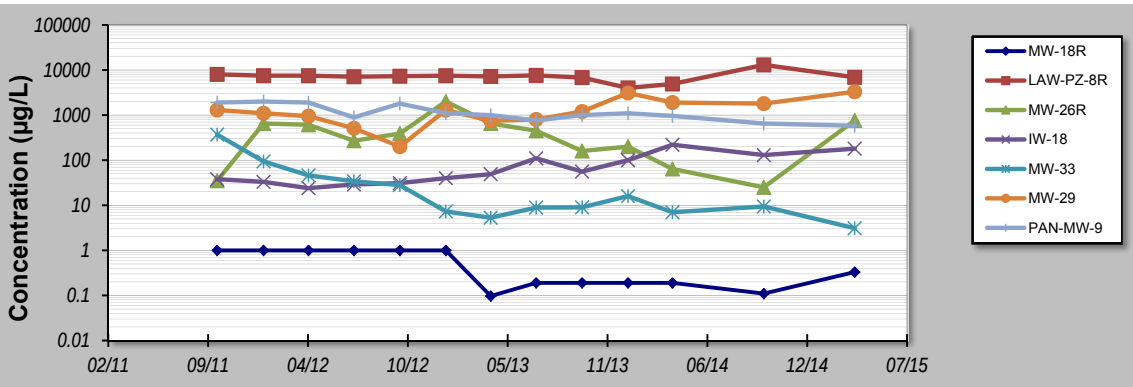
# Figure 6-8: Ethylbenzene Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | Ethylbenzene |
| Conducted By: | EIC | Concentration Units: | µg/L |

| Sampling Point ID: | MW-18R | LAW-PZ-8R | MW-26R | IW-18 | MW-33 | MW-29 | PAN-MW-9 |
|---|---|---|---|---|---|---|---|
| Sampling Event | Sampling Date | ETHYLBENZENE CONCENTRATION (µg/L) | | | | | | |
| 1 | 2-Oct-11 | 1 | 8000 | 35 | 38 | 370 | 1300 | 1900 |
| 2 | 3-Jan-12 | 1 | 7500 | 650 | 33 | 94 | 1100 | 2000 |
| 3 | 2-Apr-12 | 1 | 7500 | 610 | 24 | 46 | 950 | 1900 |
| 4 | 2-Jul-12 | 1 | 7100 | 270 | 29 | 34 | 510 | 890 |
| 5 | 2-Oct-12 | 1 | 7300 | 390 | 31 | 28 | 200 | 1800 |
| 6 | 2-Jan-13 | 1 | 7500 | 2000 | 40 | 7.3 | 1300 | 1100 |
| 7 | 2-Apr-13 | 0.097 | 7200 | 650 | 49 | 5.3 | 750 | 1000 |
| 8 | 2-Jul-13 | 0.19 | 7600 | 450 | 110 | 8.9 | 800 | 760 |
| 9 | 2-Oct-13 | 0.19 | 6800 | 160 | 56 | 9 | 1200 | 1000 |
| 10 | 2-Jan-14 | 0.19 | 4000 | 200 | 100 | 16 | 3100 | 1100 |
| 11 | 1-Apr-14 | 0.19 | 4900 | 64 | 220 | 7 | 1900 | 960 |
| 12 | 1-Oct-14 | 0.11 | 13000 | 25 | 130 | 9.4 | 1800 | 650 |
| 13 | 1-Apr-15 | 0.33 | 6900 | 760 | 180 | 3.1 | 3300 | 580 |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| Coefficient of Variation: | | 0.76 | 0.28 | 1.08 | 0.80 | 2.03 | 0.66 | 0.42 |
| Mann-Kendall Statistic (S): | | -35 | -25 | -13 | 56 | -48 | 31 | -51 |
| Confidence Factor: | | 98.2% | 92.7% | 76.4% | >99.9% | 99.9% | 96.7% | 100.0% |
| Concentration Trend: | | Decreasing | Prob. Decreasing | No Trend | Increasing | Decreasing | Increasing | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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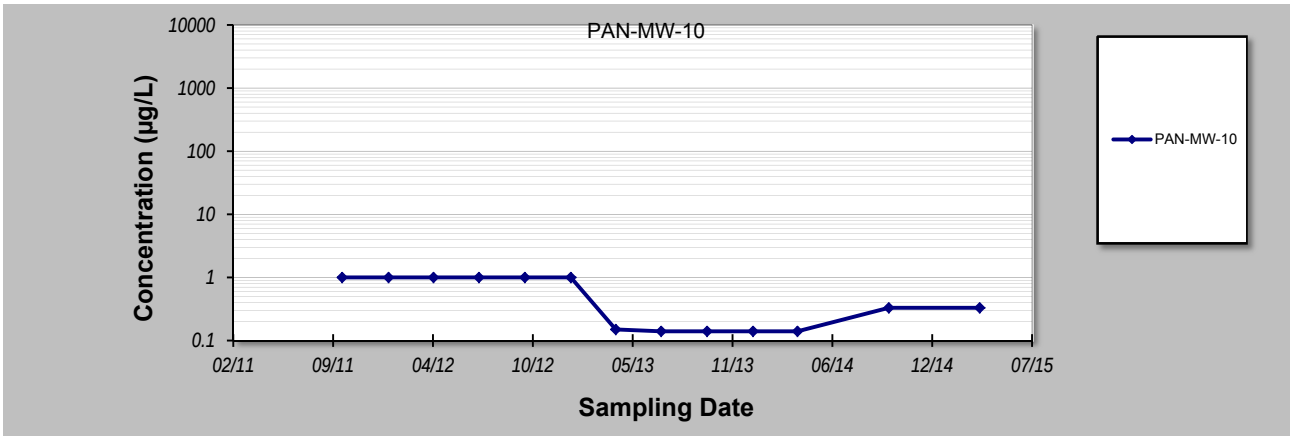
# Figure 6-8: Ethylbenzene Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | Ethylbenzene |
| Conducted By: | EIC | Concentration Units: | µg/L |
| Sampling Point ID: | PAN-MW-10 | | |

| Sampling Event | Sampling Date | ETHYLBENZENE CONCENTRATION (µg/L) |
|---|---|---|
| 1 | 2-Oct-11 | 1 |
| 2 | 3-Jan-12 | 1 |
| 3 | 2-Apr-12 | 1 |
| 4 | 2-Jul-12 | 1 |
| 5 | 2-Oct-12 | 1 |
| 6 | 2-Jan-13 | 1 |
| 7 | 2-Apr-13 | 0.15 |
| 8 | 2-Jul-13 | 0.14 |
| 9 | 2-Oct-13 | 0.14 |
| 10 | 2-Jan-14 | 0.14 |
| 11 | 1-Apr-14 | 0.14 |
| 12 | 1-Oct-14 | 0.33 |
| 13 | 1-Apr-15 | 0.33 |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| Coefficient of Variation: | | 0.74 |
| Mann-Kendall Statistic (S): | | -36 |
| Confidence Factor: | | 98.5% |
| Concentration Trend: | | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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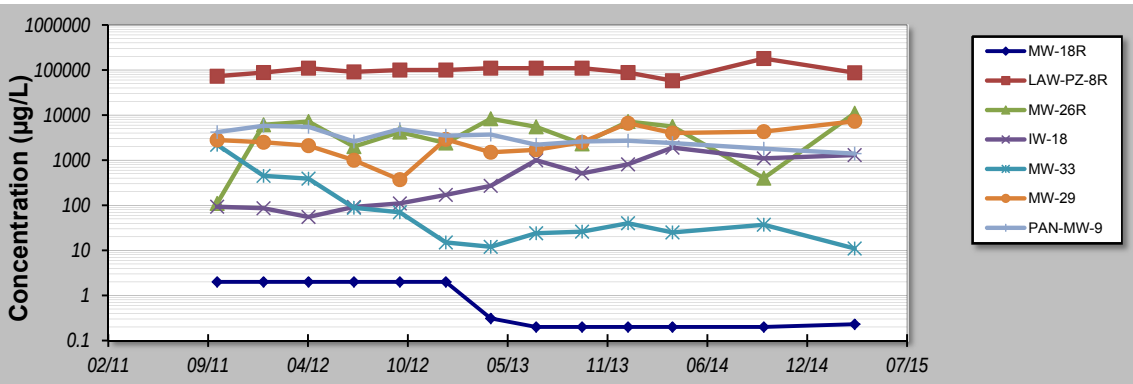
# Figure 6-9: Total Xylenes Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | Total Xylenes |
| Conducted By: | EIC | Concentration Units: | µg/L |

| Sampling Point ID: | MW-18R | LAW-PZ-8R | MW-26R | IW-18 | MW-33 | MW-29 | PAN-MW-9 |
|---|---|---|---|---|---|---|---|
| Sampling Event | Sampling Date | TOTAL XYLENES CONCENTRATION (µg/L) | | | | | | |
| 1 | 2-Oct-11 | 2 | 73000 | 110 | 93 | 2200 | 2800 | 4200 |
| 2 | 3-Jan-12 | 2 | 88000 | 6100 | 86 | 450 | 2500 | 5800 |
| 3 | 2-Apr-12 | 2 | 110000 | 7200 | 55 | 390 | 2100 | 5500 |
| 4 | 2-Jul-12 | 2 | 91000 | 2000 | 92 | 88 | 1000 | 2600 |
| 5 | 2-Oct-12 | 2 | 100000 | 4200 | 110 | 70 | 370 | 4900 |
| 6 | 2-Jan-13 | 2 | 100000 | 2400 | 170 | 15 | 2900 | 3500 |
| 7 | 2-Apr-13 | 0.31 | 110000 | 8300 | 270 | 12 | 1500 | 3700 |
| 8 | 2-Jul-13 | 0.2 | 110000 | 5500 | 1000 | 24 | 1700 | 2200 |
| 9 | 2-Oct-13 | 0.2 | 110000 | 2300 | 510 | 26 | 2500 | 2600 |
| 10 | 2-Jan-14 | 0.20 | 88000 | 7200 | 810 | 40 | 6600 | 2700 |
| 11 | 1-Apr-14 | 0.20 | 58000 | 5600 | 1900 | 25 | 4000 | 2400 |
| 12 | 1-Oct-14 | 0.20 | 180000 | 400 | 1100 | 37 | 4300 | 1800 |
| 13 | 1-Apr-15 | 0.23 | 87000 | 11000 | 1300 | 11 | 7300 | 1400 |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| Coefficient of Variation: | | 0.89 | 0.29 | 0.68 | 1.03 | 2.30 | 0.67 | 0.42 |
| Mann-Kendall Statistic (S): | | -43 | 10 | 15 | 62 | -44 | 33 | -53 |
| Confidence Factor: | | 99.6% | 70.5% | 79.9% | >99.9% | 99.7% | 97.5% | >99.9% |
| Concentration Trend: | | Decreasing | No Trend | No Trend | Increasing | Decreasing | Increasing | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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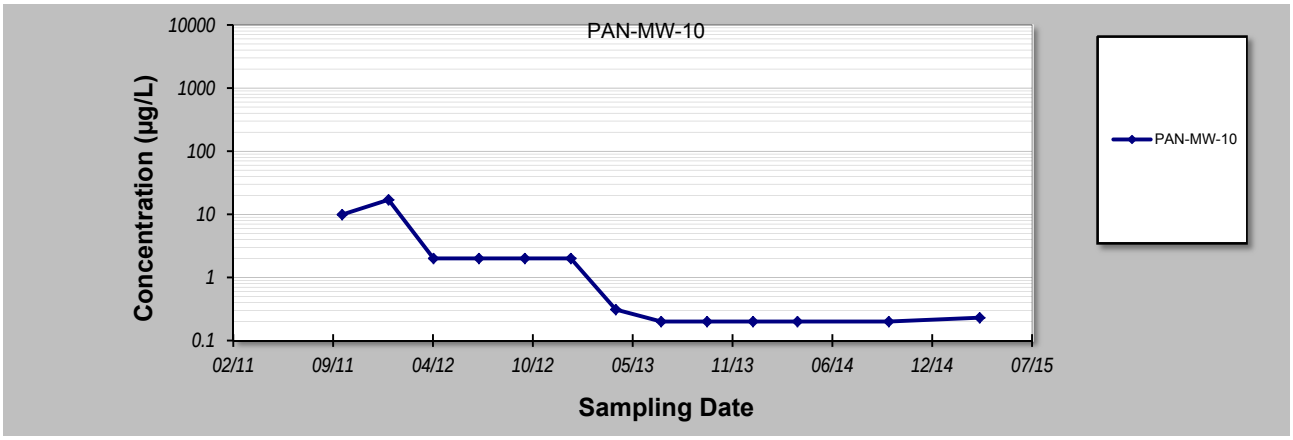
# Figure 6-9: Total Xylenes Mann-Kendall Constituent Trend Analysis

## GSI MANN-KENDALL TOOLKIT
### for Constituent Trend Analysis

| | | | |
|---|---|---|---|
| Evaluation Date: | 11-Jun-15 | Job ID: | 390031 |
| Facility Name: | VOPAK, Savannah Terminal | Constituent: | Total Xylenes |
| Conducted By: | EIC | Concentration Units: | µg/L |

Sampling Point ID: **PAN-MW-10**

| Sampling Event | Sampling Date | TOTAL XYLENES CONCENTRATION (µg/L) |
|---|---|---|
| 1 | 2-Oct-11 | 9.9 |
| 2 | 3-Jan-12 | 17 |
| 3 | 2-Apr-12 | 2 |
| 4 | 2-Jul-12 | 2 |
| 5 | 2-Oct-12 | 2 |
| 6 | 2-Jan-13 | 2 |
| 7 | 2-Apr-13 | 0.31 |
| 8 | 2-Jul-13 | 0.2 |
| 9 | 2-Oct-13 | 0.2 |
| 10 | 2-Jan-14 | 0.2 |
| 11 | 1-Apr-14 | 0.2 |
| 12 | 1-Oct-14 | 0.2 |
| 13 | 1-Apr-15 | 0.23 |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| Coefficient of Variation: | | 1.79 |
| Mann-Kendall Statistic (S): | | -50 |
| Confidence Factor: | | 99.9% |
| Concentration Trend: | | Decreasing |




**Notes:**

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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HSI SITE NO. 10464, PCE REMEDIATION, VOPAK TERMINAL SAVANNAH

# COMPLIANCE STATUS REPORT

## Exhibit F:
## Ninth VIRP Semi-annual Progress Report

(Included on Enclosed CD)

Our Contribution to the Environment®

**Environmental International Corporation**
161 Kimball Bridge Road, Suite 100, Alpharetta, GA 30009
Phone: 770-772-7100, Fax: 770-772-0555
Website: www.eicusa.com

March 16, 2016

Mr. Jason Metzger
Georgia Department of Natural Resources
Environmental Protection Division
Response and Remediation Program
2 Martin Luther King, Jr. Drive, S.E.
Suite 1054 East Tower
Atlanta, Georgia 30334-9000

**Subject:** **Ninth VIRP Semi-annual Progress Report**
**Vopak Terminal Savannah**
**HSI Site No. 10464**
**Turner and Hart Street, Savannah, Chatham County, Georgia**
**Tax Parcel: 1-0618-01-003L**

Dear Mr. Metzger:

On behalf of Vopak Terminal Savannah, Inc., Environmental International Corporation (EIC) is pleased to submit the attached Ninth VIRP Semi-annual Progress Report for the above referenced site.

Enclosed are the following:

1. One signed and sealed certification page for the Semi-annual Report
2. One bound paper copy of the Ninth VIRP Semi-annual Progress Report
3. Two Compact Discs each with the report in searchable PDF format

If you have any questions regarding this submittal, please contact Ms. Shamekia McGriff of Vopak at 912-964-1811, extn. 10114, or me at the above location.

Sincerely,
ENVIRONMENTAL INTERNATIONAL CORPORATION

Raj Mahadevaiah, P.E., C.G.W.P.
President & CEO

Cc: Shamekia McGriff, Vopak
Chris Novack, GPA

## CERTIFICATION AND SUPPORTING DOCUMENTATIONS
**Ninth VIRP Semi-annual Progress Report**
**Vopak Terminal Savannah**
**HSI Site No. 10464**
**March 16, 2016**

*"I certify under penalty of law that the accompanying report referenced above and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.*

*Furthermore, to document my direct oversight of the Voluntary Investigation and Remediation Plan (VIRP) development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.*

*The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

Basavaraj Mahadevaiah, GA PE No. 23198
Environmental International Corporation
770-772-7100, extn. 223

3/16/16
Date

GEORGIA REGISTERED No. 23198 PROFESSIONAL ENGINEER BASAVARAJ MAHADEVAIAH

Signature and Stamp

PCE REMEDIATION, HSI SITE 10464, VOPAK TERMINAL SAVANNAH
SAVANNAH, GEORGIA

# NINTH VIRP SEMI-ANNUAL PROGRESS REPORT

---

Wednesday, March 16, 2016

Submitted to:
**GEORGIA ENVIRONMENTAL PROTECTION DIVISION**
Georgia Department of Natural Resources
Environmental Protection Division
Response and Remediation Program
Suite 1054 East Tower
2 Martin Luther King Jr. Drive, S.E.
Atlanta, Georgia 30334

Prepared for:
**VOPAK TERMINAL SAVANNAH**
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Savannah, Georgia 31418-7390

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B. September/October 2015 EIC Well Purging and Sampling Data Field Logs

C. Lab Analytical Results for Groundwater Samples September/October 2015

D. Gauging Data from USGS Gauging Station 021989773

E. Elevation Information, National Geodetic Survey-Tidal Elevation

F. U.S. Army Corps of Engineers Savannah Harbor Expansion Project Channel Design Drawings, Plat Reference No. 3

G. Monthly Summary of Hours Invoiced (Sept. 2015 – Feb. 2016)

SECTION

1

# 1.0 INTRODUCTION

On behalf of VOPAK Terminal Savannah, Inc. (VOPAK), Environmental International Corporation (EIC) is pleased to submit the Ninth VIRP Semi-annual Progress Report for review by the Georgia Environmental Protection Division Response and Remediation Program (EPD). This report was prepared as specified in the April 2, 2011 "Revised Voluntary Investigation and Remediation Plan (VIRP) and Application" that was approved by the EPD on August 31, 2011 under the Voluntary Remediation Program (VRP) (EIC, 2011a).

## 1.1 Primary Objectives

The primary objective of this report is to present a compilation of tasks completed and evaluations completed by EIC during the six-month period from September 2015 through February 2015. This report documents the following subjects:

- Follow-up responses to the July 29, 2015 EPD comment letter
- Groundwater monitoring data evaluation
- Savannah River mixing zone evaluation
- Remedial progress
- Updated schedule and remediation plan

The following sections describe each task related to these subjects.

SECTION

2

# 2.0 EPD COMMENT LETTERS

EIC received a copy of the July 29, 2015 EPD comment letter from VOPAK on August 4, 2015 and submitted responses on behalf of VOPAK in the Eighth VIRP Semi-annual Progress Report dated August 28, 2015. The following sections include an update on the responses provided in the previous report.

## 2.1 EPD Comment 1

*EPD concurs that natural attenuation is occurring at the site and that data collected after enrollment in the VRP has expanded the known footprint of the plume. However, we do not agree that this is the reason that the property will not meet Type 1 through 4 RRS within the 5-year timeframe, as implied in Section 5.3 of the Report. Since enrollment, EPD has indicated that meeting these cleanup goals within the prescribed timeframe was unlikely based on data from wells such as LAW-PZ-8R, MW-29, and PAN-MW-9, all of which have been sampled consistently before and after enrollment. EPD expects the forthcoming report(s) to evaluate the VIRP timeline, consider alternatives to reach risk reduction standards (RRS), and provide a final remediation plan, such as active corrective action or certification to Type 5 RRS with Uniform Environmental Covenants (UECs) to address exposure pathways. EPD is eager to work with VOPAK in developing a path to certification.*

**Previous Response to EPD Comment 1:**

VOPAK understands that natural attenuation alone may be insufficient in reaching the risk reduction standards (RRS) within the 5-year time frame. Referring to the April 2015 groundwater analytical data, however, it is apparent that the chlorinated volatile organic compounds (CVOC) plume has substantially reduced in size at the leading edge. Consequently, CVOCs in only MW-29 appear to be recalcitrant – but at very low parts per billion (ppbs) concentrations. VOPAK will review analytical data from the next sampling event - scheduled for October 2015 - to verify whether the areal extent of the CVOC is further reduced. Based on that finding, VOPAK will consider the need for contingency remedial measures for localized treatment and apply for Type 5 RRS standards with UECs to address exposure pathways.

**Follow-up Response to EPD Comment 1:**

Based on the analytical results from the October 2015 groundwater sampling event, it is apparent that the aerial extent of the plume has reduced significantly as compared to the baseline October 2011 sampling event. Since a relatively small portion of the plume remained persistent, VOPAK is petitioning for a Type 5 RRS option with environmental covenants. In a meeting held at the EPD offices, GPA and EPD consented to this approach. VOPAK will therefore prepare a Uniform Environmental Convenant (UEC)

## 2.2 EPD Comment 2

*EPD has previously noted concern over the possibility that contaminated groundwater is discharging to the Savannah River (or the Tidal Flat) as a pathway that could create ecological risks associated with concentrations in surface water or sediment. There is no groundwater data available for the small area between two higher concentration monitoring wells (MW-32 and PAN-MW-9) and the Tidal Flat, and thus no evidence that contaminated groundwater is not discharging to the Tidal Flat. Additionally, Figure 4-6 and 4-7 indicate two discrete plumes of DCE and VC, respectively, at these wells and MW-16, though there is no evidence that these plumes are not connected. Additional monitoring well(s) or sediment sampling may be necessary to better delineate the plume and characterize ecological risks.*

**Previous Response to EPD Comment 2:**

As discussed in the updated site conceptual model (Appendix A), it appears that the area previously presumed to be a tidal flat in previous maps is actually a narrow area that functions as a drainage channel or an inlet depending on the river tides. The retaining wall (labeled on the site figures as a concrete bulkhead) equipped with a sluice gate and the tides in the Savannah River affect the fluid flow hydrodynamics in this localized area. EIC is currently compiling additional supporting material from various sources to substantiate this finding. As stated in the aforementioned EIC's response to EPD Comment 1, the CVOC plume has also substantially reduced in size at the leading edge. Consequently, EIC is developing a detailed work plan to evaluate whether potential ecological risks are present from the contaminated groundwater that may migrate to the Savannah River. Prior to the preparation of a work plan, EIC proposes a meeting with EPD to discuss the plan objectives and scope of work.

**Follow-up Response to EPD Comment 2:**

Based on a subsequent review of several historical drawings of the site, EIC has confirmed that the area originally presumed to be a tidal flat is in fact a man-made drainage channel constructed in 1942 or in prior years. This finding is easily discernable from the exhibit presented in Attachment A. From the area encircled in red (on the exhibit), it is apparent that the existing man-made channel was constructed by excavating a portion of the original land mass that was previously sloping towards the Savannah River along the shoreline.

As discussed in the aforementioned response to EPD Comment 1, the CVOC plume is stable and shrinking in areal extent. In lieu of additional monitoring well(s) or sediment sampling for ecological risks, EIC conducted a mixing zone analysis from potential migration of groundwater to the Savannah River. Based on the results of the mixing zone analysis, presented in Section 4.0, it is apparent that the resulting concentrations in the Savannah River would be substantially lower than both the national and state water quality standards for the Savannah River.

## 2.3 EPD Comment 3

*EPD anticipates reviewing VOPAK's assessment of potential preferential flow through utility trenches, such as the large stormwater conveyance pipe discharging to the Tidal Flat near MW-32, as well as the hydraulic and transport evaluation of the sheet pile wall.*

**Previous Response to EPD Comment 3:**

As noted in the updated site conceptual model (Appendix A), EIC has provided detailed schematics of the retaining wall and other related substructures. In addition, VOPAK is evaluating the feasibility of performing a flow-net analysis to determine fluid flow pathways.

**Follow-up Response to EPD Comment 3:**

Based on the results of the mixing zone analysis, presented in Section 4.0, EIC determined that a flow-net analysis is no longer necessary. Consequently, any potential groundwater migration along the stormwater pipes or other pathways would have negligible effect on the water quality in the Savannah River.

## 2.4 EPD Comment 4

*EPD anticipates reviewing the forthcoming vapor intrusion study, indicated to assess potential risks to existing and potential future structures as well as an assessment of potential risks to construction workers in areas of shallow groundwater. Risks to construction workers are associated with incidental contact and possible ingestion of contaminated groundwater during subsurface work. Any risks associated with these pathways will need to be addressed in an institutional control.*

**Response to EPD Comment 4:**

A work plan for vapor intrusion study to evaluate the potential risks to structures and construction workers is currently under preparation. VOPAK will submit the plan to EPD for concurrence of the scope of work. Upon EPD approval, VOPAK will complete the study and submit the results in a subsequent semi-annual report.

**Follow-up Response to EPD Comment 4:**

Based on the comments from a meeting held at the EPD office on February 25, 2016, EIC will conduct a vapor intrusion study to address construction worker exposure risks.

SECTION

3

# 3.0 GROUNDWATER MONITORING

The semi-annual groundwater monitoring (sampling) event documented in this section was conducted from September 28 to October 1, 2015. This was the second semi-annual sampling event of 2015 under VIRP program.

The sampling event entailed the collection of groundwater samples, for laboratory analysis of dissolved constituents (or contaminants) of concern (COCs), from wells within the previously established area of concern. COCs that EIC monitored included dissolved chlorinated volatile organic compounds (CVOCs) and volatile organic compounds (VOCs).

During this event, all available monitoring wells and two selected former injection wells within and adjacent to the CVOC/VOC contaminant plumes were utilized for groundwater sampling. Accordingly, EIC collected groundwater samples for CVOC/VOC analysis from a total of 25 wells.

The analytical data from the September/October 2015 sampling event was compared to the first quarterly sampling event (EIC, 2011b) and all other subsequent sampling events (EIC, 2012a, 2012b, 2012c, 2012d, 2013a, 2013b, 2013c, 2014a, 2014b, 2015a, and 2015b) to track prevailing contaminant concentration trends. A statistical analysis of these trends is documented in the remedial progress section of this report.

## 3.1 Groundwater Monitoring Objective

The primary goal of the September/October 2015 groundwater monitoring event was to meet the groundwater monitoring objectives set forth in the VIRP. The following subsections document the sampling process and an evaluation of the analytical results from the samples collected from the site.

## 3.2 Groundwater Monitoring Field Program

During the September/October 2015 groundwater monitoring event, EIC conducted groundwater monitoring utilizing 22 shallow monitoring wells, two shallow injection wells, and one deep

monitoring well. The site layout is illustrated in Figure 3-1. The following sub-sections describe EIC's technical approach regarding this event.

### 3.2.1 Sampling Protocol

The groundwater sampling program was conducted in accordance with the current U.S. Region 4 EPA groundwater sampling procedure "Field Branches Quality System and Technical Procedures" (FBQSTP) per EPD regulations. Each monitoring well was gauged, purged, and sampled following the "low-flow" purge technique established in the standard operating procedure (SOP) SESDPROC-301-R3 under the FBQSTP (EPA, 2013).

### 3.2.2 Site Access

Prior to EIC's site visit, EIC coordinated the sampling activities with the Georgia Ports Authority (GPA) and GAF Materials Corp. (GAF) for gaining access to collect groundwater samples from a total of seven off-site monitoring wells consisting of MW-17R, MW-28, MW-32, MW-34, MW-35, MW-36, and MW-37. Monitoring wells MW-28 and MW-37 are located on GAF property and wells MW-17R, MW-32, MW-34, MW-35, and MW-36 are located on GPA property.

### 3.2.3 Groundwater Gauging

Prior to sampling, EIC gauged each well with a Solinst Model 122 interface meter ("oil/water interface probe") to determine the static depth to groundwater. The gauging data is tabulated in Table 3-1. In preparing this table, EIC utilized top-of-casing (TOC) elevations to calculate the groundwater elevation data regarding this event.

### 3.2.4 Groundwater Sampling Field Procedures

Prior to EIC initiating field sampling activities, EIC obtained a structurally competent 55-gallon drum from VOPAK to containerize purged groundwater. During the September/October 2015 event, the 55-gallon drum was placed on the west shoulder of Hart Street, which lies between Tank Farm #2 and Tank Farm #3, near well MW-27. EIC placed a non-hazardous waste label on the drum and marked the contents on it as investigative derived waste ("IDW") well purge water and the accumulation date with a black permanent marker. The drum was later properly disposed of by VOPAK.

At each well-head designated for sampling, EIC monitored VOC air concentrations in parts per million (ppm) with a calibrated photoionization detector. A total of three measurements were taken at each well to document VOC concentrations in the ambient air within two feet of and outside the outer well casing, the air between the inner well casing and the outer protective casing or vault, and the air within the inner well casing once the well cap was removed. The VOC concentrations

observed were recorded on the September/October 2015 EIC Well Purging and Sampling Data Field Logs (Attachment B).

EIC followed the "low-flow" purge technique, noted in Section 3.2.1, to conduct all groundwater sampling. EIC used a peristaltic pump with disposable 1/4-inch ID Teflon®-lined tubing and a 6-inch segment of 3/16-inch ID silicon tubing at the pump head to purge each well until groundwater quality parameters reached stabilization prior to sampling. The length of Teflon® tubing necessary to place the intake at the center of the wetted screened interval was determined from water levels and available well construction data noted in EIC well purging and sampling data field logs (Attachment B). Purging data is summarized in Table 3-2.

Groundwater stabilization parameters were monitored via direct pumping to a multi-parameter field water quality field meter equipped with a flow-through cell. These parameters were recorded at approximately five minute intervals on EIC field logs (Attachment B). Additionally, purge volumes and depth-to-water (DTW) measurements were recorded at the same five-minute intervals when possible. At each well, the pumping rate and tubing depth were adjusted accordingly if excessive drawdown was observed. In 1-inch and ¾-inch ID cased wells, where the installed tubing restricted the access of the interface probe, the depth to water could not be gauged during purging. In these wells, gauging was performed only just prior to inserting the tubing and immediately after the tubing was removed.

EIC considered that stabilization was reached when 3 consecutive stabilization parameter readings were within ± 0.1 for pH and ± 5% for specific conductivity. Reasonable attempts were made at each well to reach 0.2 mg/L dissolved oxygen (DO) and a turbidity reading below 10 Nephelometric Turbidity Units (NTUs) prior to sampling. Groundwater quality field parameters (Temperature, pH, oxygen reduction potential (ORP), conductivity, turbidity, and DO) after stabilization and prior to sample collection are summarized in Table 3-3. Note, however, that during the September/October 2015 sampling event, the turbidity levels at 13 wells could not be lowered below 10 NTUs and the DO levels could not be lowered below 0.2 mg/L at any of the wells sampled. All samples were collected using the "soda straw method" specified in SOP SESDPROC-301-R3.

### 3.2.5 Sample Custody and Laboratory Analysis

Immediately after each sample set was collected, the sample bottles were sealed and labeled in the field. Each sample set was then placed in padded sealable plastic bags to prevent breakage and stored with ice in insulated cooler containers provided by the laboratory. Complete and signed chain of custody forms accompanied all samples. EIC delivered and relinquished the samples to Test America Laboratories, a Georgia-certified laboratory located in Savannah, Georgia, prior to returning to EIC headquarters.

The laboratory conducted analysis of volatile organic compounds via EPA method 8260B. The laboratory report for the September/October 2015 event is included as Attachment C. The results

of COC analysis of samples collected during this event, along with historical COC analytical data, are summarized in Table 3-4.

### 3.3 Quality Assurance and Quality Control

For quality assurance and quality control purposes during the groundwater sampling process, EIC submitted one trip blank set, provided by the laboratory, with each sample container for analysis via EPA Method 8260B. The trip blanks were kept in the same thermal cooler as the collected CVOC/VOC samples until they were relinquished to the laboratory.

To prevent cross-contamination, new disposable 1/4-inch inner diameter and 3/8-inch outer diameter Teflon®-lined tubing was used to collect samples at each well, which were later properly disposed of. EIC's oil/water interface meter, 2,000 mL graduated cylinder, and Teflon® tubing cutter were field decontaminated prior to use and between sampling locations by washing with a phosphate-free detergent solution and rinsing with pressurized de-ionized (DI) water. After each sample was collected, the water quality parameters instrument was also decontaminated with DI water.

### 3.4 Data Evaluation

EIC conducted an evaluation of the data compiled from field and laboratory analyses of groundwater samples collected during this event to determine the groundwater potentiometric surface and to determine the horizontal and the vertical extent of the prevailing COC plumes. Data from this sampling event was compared with the data from the baseline sampling event and data from each of the subsequent sampling events to develop a strategy to reach remedial end points.

#### 3.4.1 Groundwater Potentiometric Map

Table 3-5 tabulates the historical groundwater elevations for all gauging events at the site since groundwater monitoring was initiated under the VIRP in October 2011. From this table, it is apparent that during the September/October 2015 gauging event, the overall potentiometric surface was similar in elevation to the previous gauging event. In general, the potentiometric surface elevation at the site during the September/October 2015 event was slightly above the global average groundwater elevation. Additionally, the average groundwater elevation during the September/October 2015 gauging event was relatively high compared to those observed during previous groundwater monitoring events.

Figure 3-2 illustrates the September/October 2015 potentiometric surface map. Referring to Figure 3-2, the prevailing groundwater flow direction in the vicinity of the COC plume footprint remains from the southwest to the northeast.

### 3.4.2 Horizontal Extent of COC Plumes

Figure 3-3 summarizes the analytical results of the monitored dissolved COCs from the September/October 2015 sampling event for each well sampled. Figures 3-4 through 3-11 illustrate each of the eight monitored COC plumes. Table 3-4 is a compilation of available analytical data from groundwater monitoring events conducted since February 1991. The following sub-sections describe the spatial and temporal analysis of the horizontal extent of the COC plumes.

#### 3.4.2.1 CVOC Plume

The CVOC plume consists of Tetrachloroethylene or Perchloroethylene (PCE), Trichloroethylene (TCE), Cis-1, 2 Dichloroethylene (DCE), and Vinyl Chloride (VC) COCs. Based on current analytical results, it is apparent that the overall extent and concentration of the collective CVOC plume at the site has significantly decreased since the inception of the VIRP sampling program in October 2011. However, residual CVOC concentrations are present in certain areas. The following subsections describe spatial and temporal changes of individual CVOC constituents since October 2011.

**PCE Plume:**

Figure 3-4 illustrates the horizontal extent of the PCE plume during the September/October 2015 sampling event. The current PCE plume is composed of two distinctly separated areas of contamination, with the peak concentration of the first area centered near IW-1R at the upgradient southwestern end of the original CVOC plume footprint, and the peak concentration of the second area centered near MW-29 near the down-gradient northeastern end of the original CVOC plume footprint.

Within the upgradient portion of the original CVOC plume footprint, the peak PCE concentration at IW-1R decreased from 310 µg/L to 230 µg/L from March/April 2015 to September/October 2015 sampling events, respectively. It is noteworthy that PCE concentrations at MW-26R, near well IW-1R, were below detection limits.

Within the down-gradient portion of the original CVOC plume footprint, the overall extent and concentration in this area has fluctuated since the first VIRP sampling event in October 2011, however, overall, there has been a decreasing concentration trend. In particular, the sharp decrease in PCE concentration, observed at MW-32 during the March/April 2015 event, was revalidated during the September/October monitoring event. Additionally, the PCE concentration slightly decreased in MW-29 from 160 µg/L to 110 µg/L.

In summary, the overall extents of the PCE plume have reduced substantially or remained stable over time and concentrations at sampled wells are decreasing and trending downward towards RRS

values. This indicates that MNA is effective in reducing the PCE mass concentrations especially at the down-gradient leading edge plume closest to the Savannah River.

**TCE Plume:**

Figure 3-5 illustrates the horizontal extent of the TCE plume during the September/October 2015 sampling event. Similar to the PCE footprint, the TCE plume is also composed of two distinct peaks of contamination. The upgradient area of peak concentration is located between wells IW-1R and LAW-PZ-8R, while the downgradient peak is located near well MW-29. The TCE concentration at IW-1R reduced from 150 µg/L in March/April 2015 to 100 µg/L in September/October 2015. At well MW-29, the TCE concentration increased slightly from 90 µg/L in March/April 2015 to 130 µg/L in September/October 2015. These shifts were accompanied by increases at nearby wells, particularly at MW-33. As such, the former separate plumes above the delineation criterion of 5 µg/L that were observed in March/April 2015, rejoined into a single plume. The slight increases in TCE concentrations observed may be attributed to the degradation of PCE.

In summary, the overall extent of the TCE plume has remained stable over time. Typically, TCE is produced from reductive dechlorination of PCE. The substantial transformation of PCE TCE is indicative that MNA is effective in reducing the PCE to TCE.

**DCE Plume:**

Figure 3-6 illustrates the horizontal extent of the DCE plume during the September/October 2015 sampling event. Consistent with the other CVOC plumes, the DCE plume is divided into two distinct peaks with concentrations above the RRS of 1,022 µg/L. The upgradient area of peak concentration is located near IW-1R, while the downgradient peak is located near MW-29. The DCE concentration at IW-1R reduced from 9,900 µg/L in March/April 2015 to 8,800 µg/L in September/October 2015. At MW-29, the TCE concentration increased from 5,900 µg/L in March/April 2015 to 9,000 µg/L in September/October 2015. The increase in concentration near MW-29 is most likely attributed to the attenuation of its parent CVOC products which produce DCE as a degradation product.

In summary, the overall extent of the DCE plume has reduced or has remained stable over time and concentrations within it are generally decreasing and trending downwards towards RRS values. Considering that DCE is a second-step transformation product from the reductive dechlorination of PCE, substantial reduction in PCE concentration and production of DCE is confirming that the MNA is effective in reducing the DCE concentrations. The relatively minor increases in DCE concentration may be attributed to degradation of PCE and TCE over time.

**VC Plume:**

Figure 3-7 illustrates the horizontal extent of the VC plume during the September/October 2015 sampling event. The plume area is consistent with previously plotted CVOC plumes, however, it does not exhibit separate upgradient and downgradient portions of the plume, as with other COC plumes. The peak concentration of the downgradient plume occurs near MW-29, where the concentration increased from 790 µg/L in March/April 2015 to 1,000 µg/L in September/October 2015.

In summary, the VC plume has remained stable in the short term and significantly reduced in both areal extent and in concentration relative to the original footprint. As with the other CVOC daughter product plumes, minor increases in concentration of VC may be attributed to the transformation from the parent products.

#### 4.4.2.2 VOC Plume

The COCs monitored within the collective VOC plume consist of Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX). Since the first VIRP sampling event, conducted in October 2011, the VOC plume concentrations within the original VOC plume footprint have declined substantially. The following subsections describe spatial and temporal changes of individual VOC constituents since VIRP sampling was initiated in October 2011.

**Benzene Plume:**

Figure 3-8 illustrates the horizontal extent of the benzene plume during the September/October 2015 sampling event. The benzene plume is composed of two isolated areas of concentrations above RRS and the delineation criterion near the upgradient and down-gradient portions of the original VOC plume footprint. The upgradient benzene plume continues to maintain stability and increased very slightly in LAW-PZ-8R from 1,100 µg/L in March/April 2015 to 1,200 µg/L in September/October 2015. The down-gradient plume, centered near MW-29, has remained relatively stable over time as compared to the original footprint.

In summary, the Benzene plume has reduced significantly in concentration and extent as compared to the original plume footprint and continues to trend downward towards RRS values.

**Toluene Plume:**

Figure 3-9 illustrates the horizontal extent of the toluene plume from the September/October 2015 sampling event. The Toluene plume has been centered in the area between wells IW-1R and LAW-PZ-8R and has remained below RRS for the duration of the VIRP. At IW-1R the Toluene concentration decreased from 260 µg/L in March/April 2015 to 200 µg/L in September/October

2015. This indicates a continued downward trend in concentration and demonstrates the effectiveness of MNA in remediating Toluene.

**Ethylbenzene Plume:**

Figure 3-10 illustrates the horizontal extent of the ethylbenzene plume from the September/October 2015 sampling event. The ethylbenzene plume is divided into distinct upgradient and downgradient portions. The upgradient portion is centered near LAW-PZ-8R while the downgradient portion is centered near MW-29. The Ethylbenzene concentration at LAW-PZ-8R decreased from 6,900 µg/L in March/April 2015 to 6,200 µg/L in September/October 2015. The Ethylbenzene concentration at MW-29 decreased by almost one half from 3,300 µg/L in March/April 2015 to 1,700 µg/L in September/October 2015.

In summary, the Ethylbenzene plume has significantly reduced in concentration and extent in comparison to the original plume footprint and continues to trend downward towards RRS values. This indicates that MNA is effective in reducing Ethylbenzene concentrations.

**Total Xylenes Plume:**

Figure 3-11 illustrates the horizontal extent of the total xylenes plume from the September/October 2015 sampling event. Similar to the ethylbenzene plume, the total xylenes plume is divided into upgradient and downgradient portions centered near wells LAW-PZ-8R and MW-29, respectively. The total xylenes concentration at LAW-PZ-8R decreased from 87,000 µg/L in March/April 2015 to 78,000 µg/L in September/October 2015. The total xylenes concentration at MW-29 decreased from 7,300 µg/L in March/April 2015 to 4,700 µg/L in September/October 2015. This indicated a trend reversal of a previously increasing trend in concentrations and a slight horizontal plume extents expansion observed up until the March/April 2015 event.

In summary, the total xylenes plume has significantly reduced in concentration and extent, as compared to the original plume footprint, and remains stable in concentration and extent.

### 3.4.3 Vertical Extent of COC Plumes

The historical groundwater sampling results of samples from the single deep well MW-14 within the original COCs footprint through September/October 2015 are tabulated in Table 3-4. Since the redevelopment and integration of well MW-14 into the regular CVOC and VOC sampling schedule in October 2013, EIC confirmed that all monitored COC concentrations in the well have remained below delineation standards and all but one parameter were below method detection limits - MDLs. In the EPD's comment letter to VOPAK dated April 3, 2014, the EPD concurred with EIC that vertical delineation is complete.

SECTION

4

# 4.0 SAVANNAH RIVER MIXING MODEL

To evaluate the potential impact of shallow groundwater contamination to the Savannah River (River) at the site, EIC developed a mixing model. This model estimates the maximum downstream concentrations of COC's in the Savannah River after mixing with potential COCs in the groundwater migrating from the VOPAK site.

## 4.1 Model Setup

As a primary criterion, EIC established the following assumptions to evaluate the worst case scenario:

H. The entire mass of groundwater is uniformly contaminated with same concentration of COCs.

- Groundwater enters the River along the entire length of the site.
- Groundwater mixes with surface water in the River.

As such, the components of the model consist of the groundwater flow rate, the concentration of COCs in groundwater entering the River from the site, the flow rate in the River, and the resulting COC concentrations in the River upon mixing of the groundwater with the surface water in the Savannah River.

### 4.1.1 Groundwater Mass Flux Flow

The groundwater flux was estimated by utilizing the Dupuit equation shown below (Fetter, 2001).

$$q = \frac{1}{2}k\left(\frac{h_1^2 - h_2^2}{L}\right) = \frac{1}{2} * 0.88\frac{ft}{day} * \left(\frac{(48.71\,ft)^2 - (35.14\,ft)^2}{700\,ft}\right) = 0.71\frac{ft^2}{day} = 259.84\frac{ft^2}{year}$$

$$q = groundwater\ flow\ per\ unit\ width\ \left(\frac{ft^2}{day}\ \&\ \frac{ft^2}{year}\right)$$

$k = hydraulic\ conductivty\ \left(\frac{ft}{day}\right)$
$h_1 = hydraulic\ head\ at\ source\ (ft)$
$h_2 = hydraulic\ head\ at\ groundwater/river\ interface\ (ft)$
$L = distance\ between\ source\ and\ river\ (ft)$

As a worst case scenario, hydraulic conductivity was assumed to be the largest value in the range presented in the Site Conceptual Model (EIC, 2015b). Figure 4-1 illustrates the points selected for $h_1$ *and* $h_2$with the September/October 2015 groundwater contours. Considering that the initial release originated from Tank No. 24, EIC selected that area as $h_1$for the location of the hydraulic head at the source. Since groundwater discharges to the river, EIC utilized a point along the shoreline as $h_2$.

The confining unit from which hydraulic head was calculated is assumed to be the Hawthorne formation described in Table 1 of the 1963 USGS report titled *Subsurface Geology of the Georgia Coastal Plain* (USGS, 1963). From this report, the depth of the Hawthorn formation below ground surface is apparently 50 feet near the Savannah, Georgia area. Using this depth, the value of $h_1$ was derived from the groundwater contours shown in Figure 4-1, while the value of $h_2$ was determined as the height of the water in the Savannah River from data collected from by a United States Geologic Survey (USGS) gauging station on the Savannah River (USGS, 2016). The distance $L$ was computed using a trace line along the groundwater flow path between the source and the point where the channel intersects with the Savannah River.

EIC then calculated total groundwater flow to the river utilizing the following equation.

$$Q = q * L_R = 259.84 \frac{ft^2}{year} * 530\ ft = 1.38 * 10^5 \frac{ft^3}{year}$$

$Q = groundwater\ flowrate\ \left(\frac{ft^3}{year}\right)$
$q = grounderwater\ flow\ per\ unit\ width\ \left(\frac{ft^2}{day}\ \&\ \frac{ft^2}{year}\right)$
$L_R = Length\ of\ site\ \ along\ the\ Savannah\ riverfront\ (ft)$

### 4.1.2 Groundwater Concentration

For the purposes of this model, the selected groundwater concentrations were assumed to be consistent throughout the entire cross-section along the shoreline of the Savannah River. EIC chose three sets of concentrations, presented in Table 4-1, to compute different mixing scenarios. For the first scenario, EIC utilized the maximum concentrations measured at MW-16 from the latest sampling event, September/October 2015, to represent the current leading edge of the plume. For the second scenario, EIC utilized the maximum concentrations measured for each COC during the

September/October 2015 sampling event to represent a current worst case scenario. For the third scenario, EIC utilized the historical maximum concentrations of each constituent from Table 3-4 (that includes a compilation of VIRP and pre-VIRP groundwater analytical data), as an absolute worst case scenario.

### 4.1.3 Savannah River Flow

Georgia instream water quality standards are described in Georgia administrative code 391-3-6-.03 *Water Use Classifications and Water Quality Standards* (EPD, 2013). Referring to Chapter 4.e.iv, the COCs should not exceed the maximum allowable concentrations during annual average or higher stream flow conditions. As such, EIC computed a flow rate of the Savannah River, adjacent to the site, which was slightly less than the average flow rate. This computation is described in the following paragraphs.

#### 4.1.3.1 River Velocity

To compute the average velocity of the river flow, EIC first tabulated the river height gauging data from USGS gauging station 021989773 for the period from November 2008 to November 2015 (Attachment D). To establish a worst case analysis, EIC used the tidal elevation data (Attachment E) to first derive the mean low water (MLW) elevation, referenced to the NAVD88 datum (NOAA, 2015). EIC then computed the gauge height at the MLW elevation to be -4.38 feet, NAVD88.

Once EIC established the worst case MLW elevation, EIC segregated all velocity data corresponding to the MLW elevation from the original dataset. Next, EIC further segregated the data by only considering positive values of river velocities, which represent river flow towards the mouth of the river, and that represent a subset of river velocities at mean low water elevation. The average value of this subset of data was computed to be 1.24 feet per second (fps).

#### 4.1.3.2 Cross-sectional Area of Flow

To determine the cross-sectional area of flow, EIC researched publications that document the channel configuration in the vicinity of the VOPAK site. Based on this research, EIC found a United States Army Corps of Engineers (USACE) publication pertaining to the Savannah Harbor Expansion Project (SHEP) that includes various illustrations of the channel design for the area. An excerpt from this document that illustrates the channel design for the area that includes the VOPAK site is included as Attachment F and illustrates the channel width near the site. Referring to this illustration, it is apparent that a channel width of approximately 500 feet is maintained along the shipping channel for the navigation of container ships. The illustration also indicates that the current depth of the channel along the Savannah River within this navigable strip is 42 feet at mean low water. When the depth is extended to 47 feet under the SHEP program and the cross-sectional area flow will further increase over time. Also, the portion of the river on either side of the shipping channel adds additional areas of flow to the overall cross-sectional area of flow. For a conservative

estimate of the river discharge, however, EIC utilized a channel width of 500 ft. and the current depth of 42 feet for the mixing zone computations described in the following paragraphs.

#### 4.1.3.3 River Discharge

Utilizing the average low stage river velocity and the cross-sectional area of the river flow, EIC computed the river discharge as shown below:

$$Q_R = v_R * A_R = v_R * (w_R * d_R) = 1.24\ \frac{ft}{s} * 500\ ft * 42\ ft = 26{,}040\ \frac{ft^3}{s} = 8.21 * 10^{11}\ \frac{ft^3}{year}$$

where,

$Q_R = river\ discharge\ \left(\frac{ft^3}{year}\right)$

$v_R = average\ low\ stage\ river\ velocity\ \left(\frac{ft}{s}\right)$

$A_R = River\ cross\ sectional\ area\ (ft^2)$

$w_R = River\ width\ (ft)$

$d_R = River\ depth\ (ft)$

### 4.1.4 Upstream River Concentration

To estimate the potential effect of groundwater contamination from the VOPAK site entering the Savannah River, EIC assumed the initial concentration ($C_{Ru}$) of zero (0) as an upstream concentration of the respective COC in the River. For the purposes of the model, the mixing zone analysis only accounts for the potential impact of groundwater discharging from the VOPAK site.

## 4.2 Mixing Zone Calculation

EIC utilized the following equations to compute the potential downstream River concentrations based on the variables defined in Section 4.1. This equation utilizes the principle of conservation of mass and assumes complete mixing of contaminants from groundwater to the River to calculate the downstream River concentration.

$$C_{gw}Q_{gw} + C_{Ru}Q_{Ru} = C_{Rd}Q_{Rd}$$

$C_{gw} = groundwater\ COC\ concentration\ \left(\frac{\mu g}{L}\right)$

$Q_{gw} = groundwater\ flowrate\ \left(\frac{ft^3}{year}\right)$

$C_{Ru} = upstream\ river\ concentration\ \left(\frac{\mu g}{L}\right)$

$$Q_{Ru} = Q_R = upstream\ river\ flowrate\ \left(\frac{ft^3}{year}\right)$$

$$C_{Rd} = downstream\ river\ concentration\ \left(\frac{\mu g}{L}\right)$$

$$Q_{Rd} = Q_{gw} + Q_{Ru} = downstream\ river\ flowrate$$

Since,

$$C_{Ru} = 0$$

The mixing equation can be simplified to:

$$C_{gw}Q_{gw} = C_{Rd}Q_{Rd} = C_{Rd}(Q_{gw} + Q_{Ru})$$

Thus,

$$C_{Rd} = C_{gw}\left(\frac{Q_{gw}}{Q_{gw} + Q_{Ru}}\right) = C_{gw} * DF$$

*where DF serves as the Dilution factor*

Based on the Groundwater Mass Flux Flow (Section 4.1.1) and the river flow (Section 4.1.3):

$$DF = \left(\frac{Q_{gw}}{Q_{gw}+Q_{Ru}}\right) = \left(\frac{1.38*10^5\frac{ft^3}{year}}{1.38*10^5\frac{ft^3}{year} + 8.21*10^{11}\frac{ft^3}{year}}\right) = 1.68 * 10^{-7}$$

EIC utilized the dilution factor to compute the downstream river concentration for each COC for all three scenarios.

### 4.3 Results

Table 4-2 lists the results of the conservation of mass calculations as well as the state and national regulatory levels for each COC. The regulatory levels considered for this evaluation are the Georgia Instream Water Quality Standard (EPD, 2013) and the National Primary Drinking Water Standard (EPA, 2009).

Referring to the estimated downstream river concentrations listed in Table 4-2, it is apparent that the potential impact from groundwater discharge from the site into the Savannah River would be negligible. Also, these downstream river concentrations are several orders of magnitude lower than

the state or federal regulatory standards. Considering that this is a conservative worst-case scenario, potential COC migration to the River from this site would not result in downstream river concentrations in excess of both federal and state surface water quality standards.

SECTION

5

# 5.0 REMEDIAL PROGRESS

To determine the remedial progress, EIC performed a spatial and temporal analysis of the COC plumes and an evaluation of COC trends in individual wells. The following subsections discuss the remedial progress.

## 5.1 COC Degradation

The spatial and temporal analysis of the COC plumes, discussed in Section 3, provides a clear insight into the overall remedial progress and the plume stability. The following subsections discuss the degradation of the COCs.

### 5.1.1 CVOC Plume

As discussed in the previous semi-annual progress report, the prevailing PCE, TCE, DCE, and VC plumes have degraded significantly in comparison to the footprints of the original COC plumes (EIC, 2015b). Since the inception of the VIRP program and subsequent to the first sampling event in October 2011, EIC has delineated the leading edge of each CVOC plume.

Referring to the October 2015 analytical data, COC concentrations from the following monitoring wells exceed the established RRS values as of the time of the October 2015 groundwater monitoring event.

- **PCE** – IW-1R, IW-18, LAW-PZ-8R, MW-28, MW-29, MW-33, MW-37, and PAN-MW-9
- **TCE** – IW-1R, MW-29, and MW-33
- **DCE** – IW-1R, LAW-PZ-8R, MW-29, and PAN-MW-9
- **VC** – IW-1R, IW-18, LAW-PZ-8R, MW-16, MW-24R, MW-27, MW-28, MW-29, MW-33, MW-37, and PAN-MW-9

### 5.1.2 VOC Plume

Following a similar trend as the CVOC plume, the collective VOC plume has also reduced substantially in the center and at the leading edge of the VOC baseline footprint. This has resulted in two isolated pockets of VOC plumes, one in the trailing edge of the original VOC footprint with peak concentrations near well LAW-PZ-8R and a second pocket at the leading edge of the original VOC footprint with lower peak concentrations near well MW-29. EIC has delineated the leading edge of each COC of the VOC plume.

Referring to the October 2015 analytical data, it is apparent that concentrations of the monitored VOC COCs in groundwater at the following monitoring wells exceed the established RRS concentrations for the COCs.

- **Benzene** – IW-1R, IW-18, LAW-PZ-8R, MW-26R, and MW-29
- **Toluene** – none
- **Ethylbenzene** – IW-1R, LAW-PZ-8R, and MW-29
- **Total Xylenes** – IW-1R and LAW-PZ-8R

## 5.2 COC Trends in Individual Wells

Pursuant to EPD's requirements, discussed in the Seventh VIRP Semi-annual Progress Report, EIC prepared trend line graphs for each COC for select wells (EIC, 2015b). These trend line graphs are presented as Figures 5-1 through 5-14.

In general, all graphs illustrate an initial increase in PCE concentrations but then a gradual decline in PCE concentrations during subsequent sampling events. By contrast, the degradation products of PCE have increased in some areas and have remained persistent in other areas of the PCE footprint – confirming natural attenuation of PCE. A more detailed analysis of fluid flow hydrodynamics, as well as a fate and transport evaluation of CVOC and VOC concentrations is included in the revised site conceptual model submitted as Appendix A in the Eighth VIRP Semi-annual Progress Report.

## 5.3 Remedial Progress

As discussed in the previous Eighth Semiannual Progress Report, significant remedial progress has occurred at the site since the initiation of the VIRP and the aerial extent of the PCE plume is now confined to two small areas within the original plume footprint. The significant reduction in the leading edge of the PCE plume, discussed in the previous semiannual report, has been confirmed during two consecutive sampling events in April and October 2015 respectively. Additionally, in comparing the April and October 2015 events, concentrations of COCs remained relatively stable between the two events.

## 5.4 Final Remediation Plan

Based on the remedial progress discussed in Section 5.3, it is apparent that the PCE plume has reduced significantly and is only recalcitrant in isolated small areas within the site. Based on the historic trends, it appears that the isolated pockets of the TCE plume will likely degrade over time. In addition, the overall extent of the plume is stable or shrinking and remains stable within the site. As such, VOPAK will propose Type 5 RRS at the site to manage the potential exposure risks with environmental covenants.

SECTION

6

# 6.0 SUMMARY

Data from the recent September/October 2015 sampling event continues to support natural attenuation as the most practical solution for remediating the COCs at the site. The data also confirms the substantial reduction in COC concentrations at the leading edge of the prevailing contaminant plume. Nevertheless, it is apparent that relatively low concentrations the COCs are persistent within the pre-VIRP foot-print. At the current COC reduction trends, however, the concentrations will not be reduced to less than the Type 4 RRS within the August 31, 2016 deadline established in the VIRP program.

Clearly, the historical sampling data confirms that the plume is stable and shrinking. As an additional step in addressing potential impact to hydraulically downgradient receptors, VOPAK performed a mixing zone analysis to determine the potential impact from migration of contaminated groundwater into the Savannah River. The results of the mixing zone analysis indicate that the downstream concentrations upon mixing would be substantially lower than the state and federal water quality standards.

In summary, the plume is contained within the site and does not present a potential risk to downgradient receptors. Based on a meeting with EPD and GPA, VOPAK will prepare and utilize an EPD approved UEC to manage the prevailing groundwater contamination with institutional and engineering controls under Type 5 RRS. Explicit details of the controls and supporting material will be provided in the UEC and CSR to be submitted to EPD for review and approval.

SECTION

7

# 7.0 SUMMARY OF HOURS

A monthly summary of hours invoiced for the aforementioned tasks during the period from August 23, 2015 through February 2016 are summarized in Attachment G.

SECTION

8

# 8.0 REFERENCES


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# NINTH SEMI-ANNUAL PROGRESS REPORT

# TABLES

# Table 3-1: October 2015 Well Gauging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Gauging Date | TOC Elevation* (ft.) | DTP (ft.) | DTW** (ft.) | Groundwater Surface Elevation (ft.) | Notes |
|---|---|---|---|---|---|---|
| IW-1R (1) | 10/1/2015 | UNK | ND | 2.77 | NA | |
| IW-18 (1) | 10/1/2015 | 10.07 | ND | 2.77 | 7.30 | |
| LAW-PZ-8R (1) | 10/1/2015 | 9.22 | ND | 1.65 | 7.57 | |
| MW-14 (2) | 9/30/2015 | 8.86 | ND | 5.61 | 3.25 | |
| MW-16 (1) | 9/30/2015 | 17.01 | ND | 11.71 | 5.30 | |
| MW-17R (1) | 9/30/2015 | 15.89 | ND | 10.79 | 5.10 | |
| MW-18R (1) | 9/29/2015 | 14.12 | ND | 6.05 | 8.07 | |
| MW-19 (1) | 9/28/2015 | 14.91 | ND | 6.89 | 8.02 | |
| MW-23 (1) | 9/28/2015 | 10.39 | ND | 3.94 | 6.45 | |
| MW-24R (1) | 10/1/2015 | 11.81 | ND | 5.09 | 6.72 | |
| MW-25 (1) | 9/28/2015 | 14.76 | ND | 6.74 | 8.02 | |
| MW-26R (1) | 10/1/2015 | 10.59 | ND | 2.72 | 7.87 | |
| MW-27 (1) | 9/28/2015 | 9.38 | ND | 4.21 | 5.17 | |
| MW-28 (1) | 9/29/2015 | UNK | ND | 4.79 | NA | |
| MW-29 (0.75) | 10/1/2015 | 11.73 | ND | 5.58 | 6.15 | |
| MW-30 (2) | 9/29/2015 | 11.23 | ND | 4.78 | 6.45 | |
| MW-31 (2) | 9/28/2015 | 9.67 | ND | 4.59 | 5.08 | |
| MW-32 (2) | 9/30/2015 | 11.70 | ND | 5.94 | 5.76 | |
| MW-33 (2) | 10/1/2015 | 8.96 | ND | 2.09 | 6.87 | |
| MW-34 (2) | 9/29/2015 | 10.81 | ND | 3.42 | 7.39 | |
| MW-35 (2) | 9/29/2015 | 10.40 | ND | 5.53 | 4.87 | |
| MW-36 (2) | 9/30/2015 | 10.42 | ND | 5.93 | 4.49 | |
| MW-37 (2) | 9/28/2015 | 11.57 | ND | 4.00 | 7.57 | |
| PAN-MW-9 (2) | 9/30/2015 | 12.59 | ND | 6.09 | 6.50 | |
| PAN-MW-10 (2) | 9/30/2015 | 13.81 | ND | 8.13 | 5.68 | |

**Notes:**
ID = Identity
TOC = Top of Casing
UNK = Unknown
NM = Not Measured
ND = Not Detected
* TOC elevations are based on well surveys conducted by EMC Engineering on June 30, 2011, January 24, 2013, and on January 20, 2014 and are of the NGVD 29 Datum convention
** DTW measurements were recorded by EIC from 9/28/2015 to 10/1/2015 prior to purging using a Solinst Oil/Water Interface Meter (probe), Model: 122

# Table 3-2: October 2015 Well Purging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Date of Purge | Purge Time (minutes) | Total Purge Volume (mL) | Average Purge Rate (mL/minute) | Initial Tubing Intake Depth below TOC* (ft.) | Final Tubing Intake Depth below TOC (ft.) |
|---|---|---|---|---|---|---|
| IW-1R (1) | 10/1/2015 | 36 | 2,000 | 56 | 14.00 | 14.00 |
| IW-18 (1) | 10/1/2015 | 40 | 4,220 | 106 | 14.50 | 14.50 |
| LAW-PZ-8R (1) | 10/1/2015 | 55 | 4,200 | 76 | 6.80 | 6.80 |
| MW-14 (2) | 9/30/2015 | 40 | 2,430 | 61 | 44.50 | 44.50 |
| MW-16 (1) | 9/30/2015 | 25 | 1,200 | 48 | 12.90 | 13.40 |
| MW-17R (1) | 9/30/2015 | 32 | 2,000 | 63 | 17.50 | 17.50 |
| MW-18R (1) | 9/29/2015 | 46 | 5,030 | 109 | 11.50 | 11.50 |
| MW-19 (1) | 9/28/2015 | 50 | 6,820 | 136 | 12.50 | 12.50 |
| MW-23 (1) | 9/28/2015 | 45 | 3,950 | 88 | 8.50 | 8.50 |
| MW-24R (1) | 10/1/2015 | 35 | 2,400 | 69 | 13.50 | 13.50 |
| MW-25 (1) | 9/28/2015 | 36 | 4,440 | 123 | 14.50 | 14.50 |
| MW-26R (1) | 10/1/2015 | 60 | 5,200 | 87 | 10.00 | 10.00 |
| MW-27 (1) | 9/28/2015 | 54 | 1,740 | 32 | 12.50 | 12.50 |
| MW-28 (1) | 9/29/2015 | 32 | 2,100 | 66 | 9.00 | 9.00 |
| MW-29 (0.75) | 10/1/2015 | 38 | 2,690 | 71 | 18.50 | 18.50 |
| MW-30 (2) | 9/29/2015 | 27 | 3,840 | 142 | 10.00 | 10.00 |
| MW-31 (2) | 9/28/2015 | 20 | 2,670 | 134 | 15.00 | 15.00 |
| MW-32 (2) | 9/30/2015 | 31 | 2,980 | 96 | 11.00 | 11.00 |
| MW-33 (2) | 10/1/2015 | 15 | 2,000 | 133 | 10.00 | 10.00 |
| MW-34 (2) | 9/29/2015 | 15 | 1,840 | 123 | 11.00 | 11.00 |
| MW-35 (2) | 9/29/2015 | 65 | 6,660 | 102 | 10.00 | 10.00 |
| MW-36 (2) | 9/30/2015 | 35 | 3,520 | 101 | 11.00 | 11.00 |
| MW-37 (2) | 9/28/2015 | 45 | 7,160 | 159 | 10.00 | 10.00 |
| PAN-MW-9 (2) | 9/30/2015 | 20 | 980 | 49 | 10.50 | 10.50 |
| PAN-MW-10 (2) | 9/30/2015 | 20 | 2,920 | 146 | 12.25 | 12.25 |

**Notes:**

ID = Identity

mL = Milliliter

TOC = Well Top of Casing

* During well purging, the Teflon-lined tubing was lowered as needed when the water level fell to the depth of the intake, causing air to be recovered.

# Table 3-3: Groundwater Natural Attenuation Parameters
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Groundwater Quality Field Parameters | | | | | |
|---|---|---|---|---|---|---|
| | Temp (Celcius) | pH (SU) | ORP (mV) | Specific Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) |
| IW-1R (1) | 26.17 | 4.22 | 146 | 0.484 | 31.0 | 0.43 |
| IW-18 (1) | 26.29 | 4.84 | 83 | 0.962 | 132.0 | 0.33 |
| LAW-PZ-8R (1) | 26.20 | 5.52 | 9 | 0.773 | 232.0 | 0.34 |
| MW-14 (2) | 26.44 | 7.36 | -20 | 0.463 | 19.7 | 0.64 |
| MW-16 (1) | 29.06 | 5.76 | 59 | 0.409 | 175.0 | 0.51 |
| MW-17R (1) | 27.63 | 5.94 | 2 | 0.367 | 39.5 | 0.53 |
| MW-18R (1) | 26.48 | 4.34 | 182 | 0.261 | 17.5 | 0.48 |
| MW-19 (1) | 29.39 | 6.21 | 50 | 0.827 | 0.0 | 0.66 |
| MW-23 (1) | 28.95 | 6.58 | 77 | 0.750 | 0.0 | 0.58 |
| MW-24R (1) | 23.65 | 4.60 | 111 | 0.451 | 23.4 | 0.46 |
| MW-25 (1) | 28.31 | 5.46 | -25 | 0.830 | 58.2 | 0.34 |
| MW-26R (1) | 26.76 | 5.59 | 72 | 0.275 | 30.4 | 0.39 |
| MW-27 (1) | 25.94 | 6.17 | 127 | 0.437 | 4.4 | 0.60 |
| MW-28 (1) | 27.17 | 6.01 | 81 | 0.306 | 8.6 | 0.75 |
| MW-29 (0.75) | 22.77 | 4.64 | 91 | 1.29 | 55.4 | 0.45 |
| MW-30 (2) | 26.68 | 4.45 | 134 | 0.281 | 0.5 | 0.46 |
| MW-31 (2) | 25.34 | 6.51 | 98 | 0.846 | 0.0 | 0.53 |
| MW-32 (2) | 30.45 | 6.78 | -10 | 0.973 | 0.0 | 1.47 |
| MW-33 (2) | 24.01 | 5.30 | 66 | 0.416 | 25.3 | 0.36 |
| MW-34 (2) | 27.12 | 4.36 | 192 | 0.144 | 0.0 | 0.52 |
| MW-35 (2) | 26.41 | 6.72 | -96 | 0.743 | 0.0 | 0.33 |
| MW-36 (2) | 26.46 | 6.40 | -66 | 1.24 | 4.2 | 0.53 |
| MW-37 (2) | 24.57 | 5.18 | 125 | 0.294 | 0.0 | 0.45 |
| PAN-MW-9 (2) | 26.60 | 5.32 | 49 | 0.432 | 78.7 | 0.59 |
| PAN-MW-10 (2) | 28.18 | 6.14 | 129 | 0.565 | 6.8 | 1.83 |

**Notes:**
Field parameters were recorded by EIC from 09/28/2015 to 10/01/2015 after parameters had stabilized and prior to sample collection.

Parameters were measured with a Horiba U-52 Water Quality Meter with a Flow-Through Cell.
ID= Identity
SU= Standard Unit
mV= Millivolts
mS/cm= Microsiemens per centimeter
NTU= Nephelometric Turbidity Unit
mg/L= Milligrams per liter

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| IW-1R | Apr-14 | 310 | | 210 | | 13,000 | | 640 | | 130 | | 300 | | 2,900 | | 25,000 | |
| | Oct-14 | 170 | | 190 | | 11,000 | | 450 | | 130 | J | 320 | | 2,200 | | 19,000 | |
| | Apr-15 | 310 | | 150 | J | 9,900 | | 440 | | 110 | J | 260 | | 2,300 | | 17,000 | |
| | Oct-15 | 230 | | 100 | J | 8,800 | | 330 | | 180 | J | 200 | | 2,200 | | 19,000 | |
| IW-18 | Oct-11 | 55 | | 58 | | 4,400 | | 220 | | 36 | | 7.3 | J | 38 | | 93 | |
| | Jan-12 | 48 | J | 43 | J | 4,800 | | 230 | | 29 | J | <50 | | 33 | J | 86 | |
| | Apr-12 | 44 | J | 46 | J | 4,500 | | 210 | | 25 | J | <50 | | 24 | J | 55 | J |
| | Jul-12 | 31 | J | 33 | J | 4,500 | | 160 | | 21 | J | <50 | | 29 | J | 92 | J |
| | Oct-12 | 36 | J | 37 | J | 5,200 | | 320 | | 24 | J | <50 | | 31 | J | 110 | |
| | Jan-13 | 43 | J | 44 | J | 6,000 | | 310 | | 25 | J | <50 | | 40 | J | 170 | |
| | Apr-13 | 42 | | 37 | | 6,000 | | 410 | | 26 | | 13 | | 49 | | 270 | |
| | Jul-13 | 27 | | 31 | | 5,900 | | 770 | | 30 | | 21 | | 110 | | 1,000 | |
| | Oct-13 | 29 | | 26 | | 6,400 | | 670 | | 26 | | 12 | | 56 | | 510 | |
| | Jan-14 | 19 | | 28 | | 5,300 | | 1,900 | | 60 | | 24 | | 100 | | 810 | |
| | Apr-14 | 39 | | 34 | | 7,400 | | 1,100 | | 73 | | 35 | | 220 | | 1,900 | |
| | Oct-14 | 11 | J | 12 | J | 2,900 | | 1,500 | | 170 | | 28 | J | 130 | | 1,100 | |
| | Apr-15 | <7.4 | | 8.4 | J | 920 | | 830 | | 350 | | 14 | | 180 | | 1,300 | |
| | Oct-15 | 39 | | 25 | | 2,400 | | 710 | | 200 | | 35 | | 300 | | 3,000 | |
| LAW-PZ-8 / LAW-PZ-8R | Sep-97 | 50/500 | | NR | | NR | | 350/<500 | | NS | | NS | | NS | | NS | |
| | Dec-98 | <1000 | | NR | | NR | | <1,000 | | <1000 | | <1000 | | 4,300 | | 5,600 | |
| | Nov-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | <250 | | <250 | | 1,800 | | 890 | | <250 | | <250 | | 5,100 | | 59,000 | |
| | Jun-01 | <1200 | | <1200 | | 3,900 | | 670 | | 69 | J | 220 | J | 5,700 | | 64,000 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | 70 | J | 18 | J | 350 | | 120 | | 42 | J | <100 | | 3,700 | | 42,000 | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | 300 | | <100 | | 31,000 | | 1,700 | | 190 | | 1,200 | | 6,100 | | 84,000 | |
| | Dec-06 | 240 | | 72 | | 12,000 | | 630 | | 47 | | 410 | | 3,000 | | 41,000 | |
| | Mar-07 | <250 | | <250 | | 16,000 | | 1,200 | | <500 | | 760 | | 5,000 | | 70,000 | |
| | Sep-07 | 240 | | <100 | | 18,000 | | 1,200 | | 310 | | 720 | | 4,400 | | 54,000 | |
| | May-08 | 380 | | 34 | | 6,900 | | 660 | | 450 | | 330 | | 6,500 | | 94,000 | |
| | Dec-08 | 570 | | 52 | | 4,600 | | 360 | | 290 | | 290 | | 4,900 | | 55,000 | |
| | Apr-09 | 510 | | <250 | | <250 | | 560 | | 320 | | 280 | | 3,800 | | 48,000 | |
| | Sep-09 | 99 | | 34 | | 4,500 | | 470 | | 390 | | 260 | | 4,100 | | 47,000 | |
| | Apr-10 | 240 | | 49 | | 5,100 | | 480 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 150 | | 28 | J | 22,000 | | 1,500 | | 1,600 | | 1,100 | | 8,000 | | 73,000 | |
| | Jan-12 | 130 | J | <500 | | 17,000 | | 1,600 | | 1,700 | | 930 | | 7,500 | | 88,000 | |
| | Apr-12 | 99 | J | <500 | | 17,000 | | 1,800 | | 2,300 | | 1,100 | | 7,500 | | 110,000 | |
| | Jul-12 | 110 | J | <500 | | 16,000 | | 1,200 | | 2,000 | | 820 | | 7,100 | | 91,000 | |
| | Oct-12 | 83 | | <500 | | 8,000 | | 870 | | 1,300 | | 530 | | 7,300 | | 100,000 | |
| | Jan-13 | 99 | | <500 | | 13,000 | | 1,100 | | 2,000 | | 800 | | 7,500 | | 100,000 | |
| | Apr-13 | 71 | | 12 | | 9,100 | | 960 | | 1,400 | | 570 | | 7,200 | | 110,000 | |
| | Jul-13 | 30 | | 5.6 | J | 11,000 | | 990 | | 1,900 | | 650 | | 7,600 | | 110,000 | |
| | Oct-13 | 44 | | 8.5 | J | 8,500 | | 830 | | 1,500 | | 510 | | 6,800 | | 110,000 | |
| | Jan-14 | 38 | | <1.9 | | 7,200 | | 980 | | 1,200 | | 370 | | 4,000 | | 88,000 | |
| | Apr-14 | 22 | | 8.6 | J | 7,400 | | 840 | | 1,200 | | 400 | | 4,900 | | 58,000 | |
| | Oct-14 | <150 | | <130 | | 15,000 | | 1,900 | | 3,400 | | 1,100 | | 13,000 | | 180,000 | |
| | Apr-15 | <740 | | <480 | | 4,100 | | <500 | | 1,100 | | <480 | | 6,900 | | 87,000 | |
| | Oct-15 | <740 | | <480 | | 5,500 | | <500 | | 1,200 | | <480 | | 6,200 | | 78,000 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-14 | Feb-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-96 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-97 | 33 | | NR | | NR | | <5 | | NS | | NS | | NS | | NS | |
| | Dec-98 | <1 | | NR | | NR | | <1 | | <1 | | <1 | | **2.9** | | **1.4** | |
| | Nov-99 | <5 | | <5 | | <2 | | <2 | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | NS | | <2 | | <2 | | <5 | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-13 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | **3.5** | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.11 | | <0.33 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | **0.46** | **J** | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-15* | Feb-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-96 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-97 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-98 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Nov-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 5.3 | | **14** | | <5 | | NS | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | 12 | | **12** | | **4** | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <3 | | **4** | | **3** | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | 17 | | NS | | NS | | NS | | NS | |
| | Apr-11 | 69 | | 39 | | 2,200 | | 150 | | 34 | | **8.3** | **J** | **26** | | **86** | |
| | Oct-15 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-16 | Oct-00 | NS | | <1 | | 110 | | 2.2 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | 41 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | 33 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | 36 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | 12 | | 120 | | 4 | | <2 | | <2 | | <2 | | 7 | |
| | Dec-06 | <2 | | 24 | | 120 | | 8 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | 9 | | 71 | | 320 | | 25 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | 260 | | 63 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | 61 | | 53 | | <2 | | <2 | | 6 | | <5 | |
| | Dec-08 | <5 | | <5 | | 60 | | 49 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | 78 | | 82 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | 4.1 | | 78 | | 69 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | <5 | | <5 | | 89 | | 83 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.57 | J | 0.66 | J | 160 | | 77 | | 0.52 | J | <1 | | 0.3 | J | 1.9 | J |
| | Jan-12 | 0.67 | J | 0.94 | J | 130 | | 85 | | 0.44 | J | 0.42 | J | 0.12 | J | 1.3 | J |
| | Apr-12 | <1 | | 0.94 | J | 140 | | 200 | | 0.74 | J | 0.33 | J | 1.7 | | 21 | |
| | Jul-12 | 0.28 | J | 0.63 | J | 87 | | 48 | | 0.41 | J | <1 | | 0.23 | J | 1.1 | J |
| | Oct-12 | <2 | | 0.37 | J | 200 | | 94 | | <2 | | <2 | | 0.52 | J | 1.7 | J |
| | Jan-13 | <1 | | <1 | | 120 | | 78 | | 0.27 | J | <1 | | 0.49 | J | 1.4 | J |
| | Apr-13 | <0.22 | | 0.6 | J | 140 | | 85 | | 0.42 | J | 0.24 | J | 2.1 | | 8 | |
| | Jul-13 | <0.16 | | <0.19 | | 320 | | 100 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | 0.58 | J | 1.1 | | 110 | | 86 | | 0.83 | | <0.14 | | 1.2 | | 5.6 | |
| | Jan-14 | <0.16 | | <0.19 | | 170 | | 180 | | 1.5 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | 1.1 | | 310 | | 160 | | 2 | | <0.14 | | 8.3 | | 4.1 | |
| | Oct-14 | <0.15 | | 0.34 | J | 130 | | 81 | | 1.3 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <1.5 | | 6 | | 210 | | 120 | | 2.7 | | <0.96 | | 3.4 | | 1.3 | J |
| | Oct-15 | <1.5 | * | <0.96 | | 150 | | 75 | | 1.7 | J | <0.96 | | <0.66 | | <0.46 | |
| MW-17/ MW-17R | Oct-00 | NS | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Jul-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-04 | <5 | | <5 | | <5 | | <2 | | <10 | | 5 | | <5 | | <5 | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <5 | | <5 | | <5 | | <2 | | <10 | | 8 | | <5 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | 7 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | 4 | | 27 | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | 0.2 | J | <1 | | 0.39 | J | <1 | | 0.55 | J | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | 0.44 | J | 0.35 | J | 1.5 | | 0.65 | J |
| | Apr-12 | <1 | | 0.13 | J | 2.8 | | 0.19 | J | 0.48 | J | <1 | | 0.7 | J | 0.22 | J |
| | Jul-12 | 1.3 | | 1.2 | | 9.2 | | <1 | | 0.29 | J | <1 | | 0.62 | J | 0.28 | J |
| | Oct-12 | 16 | | 5.2 | | 13 | | <1 | | <1 | | <1 | | 1.4 | | 0.5 | J |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.84 | J | <2 | |
| | Apr-13 | 4.1 | | 1.3 | | 1.6 | | <0.30 | | 0.18 | J | <0.15 | | 1.2 | | 0.33 | J |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 1.5 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 0.83 | J | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 0.95 | J | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | 0.66 | J | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | 0.79 | J | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | 0.59 | J | 0.23 | J |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| **Well ID** | **Sample Date** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** |
| MW-18/ MW18R | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **2** | | **22** | |
| | Mar-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Jul-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | **2** | | **16** | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-19 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | **0.22** | **J** | <1 | | <1 | | <1 | | **1.7** | | **12** | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | **0.14** | **J** | <0.30 | | <0.18 | | <0.15 | | **0.21** | **J** | **0.41** | **J** |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-20 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-15 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-15 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| MW-21 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | 120 | | **1.8** | | <1 | | <1 | | <1 | | <1 | | **4.2** | | **38** | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Aug-05 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Jun-06 | 12 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <5 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-15 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-15 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-22/ MW-22R | Jun-01 | 8,700 | | 900 | | 3,100 | | 380 | | <500 | | <500 | | 600 | | 83 | J |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 1,000 | | 480 | | 930 | | <100 | | <250 | | <250 | | <250 | | <500 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 7,600 | | 700 | | 2,300 | | 210 | | <10 | | <5 | | 2,300 | | <50 | |
| | Jul-04 | 7,000 | | 71 | | 310 | | 36 | | <10 | | <5 | | 14 | | <22 | |
| | Sep-04 | 7,200 | | <250 | | 610 | | <100 | | <500 | | <250 | | <250 | | <250 | |
| | May-05 | 5,700 | | 220 | | 840 | | <100 | | <100 | | <100 | | <100 | | <250 | |
| | Aug-05 | 2,400 | | 47 | | 240 | | 37 | | <5 | | <5 | | <5 | | 10 | |
| | Jun-06 | 680 | | 71 | | 3,300 | | 140 | | <250 | | <130 | | 150 | | <130 | |
| | Oct-06 | 2,600 | | <130 | | 490 | | 89 | | <250 | | <130 | | <130 | | <130 | |
| | Dec-06 | 3,200 | | 60 | | 480 | | 100 | | <2 | | <2 | | 20 | | 18 | |
| | Mar-07 | 3,400 | | <130 | | 730 | | 100 | | <250 | | <130 | | <130 | | <130 | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | 6,900 | | 89 | | 930 | | 270 | | 2 | | <2 | | 10 | | 26 | |
| | Dec-08 | 4,400 | | 100 | | 2,100 | | 300 | | <5 | | <5 | | 7 | | 12 | |
| | Apr-09 | 1,900 | | 88 | | 1,700 | | 280 | | <5 | | <5 | | 11 | | 22 | |
| | Sep-09 | 3,000 | | 88 | | 1,000 | | 220 | | 4.1 | | <2 | | 9.2 | | 12 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jul-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jul-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-15 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-15 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| MW-23 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 760 | | 2,300 | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <2 | | <2 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | 0.23 | J | 0.42 | J |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.40 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| **Well ID** | **Sample Date** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** |
| MW-24/ MW-24R | Nov-01 | 400 | | 95 | | 240 | | 50 | | <12 | | <12 | | <12 | | <25 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 97 | | 51 | | 100 | | 22 | | 52 | | <10 | | <10 | | <20 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | 1,300 | | 180 | | 500 | | 49 | | 11 | | <5 | | 5 | | 28 | |
| | Oct-06 | 580 | | 150 | | 590 | | 33 | | <20 | | <20 | | <20 | | <50 | |
| | Dec-06 | 1,110 | | 680 | | 990 | | 68 | | 13 | | <2 | | 10 | | 35 | |
| | Mar-07 | 130 | | 200 | | 770 | | 17 | | 14 | | <5 | | <5 | | 12 | |
| | Sep-07 | 62 | | 37 | | 820 | | 20 | | 12 | | <2 | | 2 | | 7 | |
| | May-08 | 130 | | 24 | | 82 | | 9 | | 16 | | <2 | | <2 | | 11 | |
| | Dec-08 | 110 | | 25 | | 340 | | 12 | | 15 | | <5 | | <5 | | <5 | |
| | Apr-09 | 93 | | 22 | | 240 | | 18 | | 12 | | <5 | | <5 | | <5 | |
| | Sep-09 | 57 | | 20 | | 120 | | 47 | | 10 | | <2 | | <2 | | <5 | |
| | Apr-10 | 35 | | 10 | | 150 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 12 | | 5.8 | | 180 | | 25 | | 10 | | <5 | | 1.4 | J | 4.2 | J |
| | Jan-12 | 7.5 | | 3.9 | | 160 | | 16 | | 8.2 | | 0.4 | J | 0.98 | J | 11 | |
| | Apr-12 | 6.8 | | 4.7 | | 230 | | 7.4 | | 11 | | 1.8 | J | 16 | | 230 | |
| | Jul-12 | 6.7 | | 3.6 | | 220 | | 9.2 | | 7.6 | | <2 | | <2 | | <4 | |
| | Oct-12 | 6 | | 3.4 | J | 320 | | 54 | | 8.1 | | <5 | | 3.4 | J | 20 | |
| | Jan-13 | 3 | J | 2.1 | J | 410 | | 71 | | 6.9 | | <5 | | 4 | J | 22 | |
| | Apr-13 | 3.5 | | 2.8 | | 540 | | 64 | | 6.2 | | 0.71 | J | 4.4 | | 26 | |
| | Jul-13 | 5.3 | | 5.4 | | 800 | | 140 | | 8.2 | | 1.2 | | 11 | | 58 | |
| | Oct-13 | 3.3 | | 2.2 | | 450 | | 43 | | 6 | | 0.41 | J | 0.79 | J | 6.3 | |
| | Jan-14 | 2.6 | | 4.4 | | 570 | | <0.19 | | 6.1 | | <0.14 | | <0.19 | | 2.7 | |
| | Apr-14 | 2 | | 1.8 | | 500 | | <0.19 | | 5.8 | | 0.48 | J | 0.45 | J | 2 | |
| | Oct-14 | 1.7 | J | <0.65 | | 360 | | 38 | | 5.6 | | <1.7 | | 1.3 | J | <1.0 | |
| | Apr-15 | <3.7 | | <2.4 | | 300 | | 16 | | 3.9 | J | <2.4 | | <1.7 | | <1.2 | |
| | Oct-15 | <3.7 | | <2.4 | | 360 | | 24 | | 4.4 | J | <2.4 | | <1.7 | | <1.2 | |
| MW-25 | Nov-01 | <5 | | <5 | | <5 | | <10 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.72 | J | 8.7 | |
| | Jan-12 | <1 | | <1 | | 0.21 | J | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | 0.27 | J | <1 | | 0.57 | J | <1 | | <1 | | <1 | | 3.2 | | 20 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0..50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-26/ MW-26R | Nov-01 | 2,400 | | 100 | | 1,100 | | 210 | | <100 | | <100 | | <100 | | <200 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 300 | | 14 | | 180 | | 38 | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | 120 | | 8 | | 120 | | 28 | | 17 | | <2 | | <2 | | <5 | |
| | Aug-05 | 420 | | 22 | | 210 | | 47 | | 35 | | <5 | | <5 | | 6 | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | <2 | | 2 | | 2,800 | | 330 | | 16 | | 45 | | 380 | | 2,700 | |
| | Dec-06 | 6 | | 4 | | 5,100 | | 560 | | 20 | | 83 | | 1,500 | | 13,000 | |
| | Mar-07 | <5 | | <5 | | 2,600 | | 580 | | 17 | | 45 | | 1,100 | | 6,900 | |
| | Sep-07 | <2 | | <2 | | 240 | | 240 | | 9 | | 4 | | 71 | | 250 | |
| | May-08 | 5 | | <2 | | 410 | | 83 | | 12 | | 10 | | 260 | | 1,300 | |
| | Dec-08 | <5 | | <5 | | 14 | | 19 | | <5 | | 5 | | 23 | | 120 | |
| | Apr-09 | <5 | | <5 | | 200 | | 76 | | 14 | | 21 | | 310 | | 2,700 | |
| | Sep-09 | <2. | | <2 | | 150 | | 62 | | 4.4 | | 3.8 | | 63 | | 380 | |
| | Apr-10 | <5 | | <5 | | 93 | | 48 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | 0.89 | J | 43 | | 34 | | 7.2 | | 1.4 | | 35 | | 110 | |
| | Jan-12 | <25 | | 5 | J | 390 | | 130 | | 29 | | 59 | | 650 | | 6,100 | |
| | Apr-12 | <25 | | 5.5 | J | 350 | | 140 | | 22 | J | 54 | | 610 | | 7,200 | |
| | Jul-12 | <5 | | <5 | | 43 | | 40 | | 21 | | 15 | | 270 | | 2,000 | |
| | Oct-12 | <50 | | <50 | | 210 | | 63 | | 35 | J | 37 | J | 390 | | 4,200 | |
| | Jan-13 | 27 | J | 21 | J | 1,500 | | 220 | | 64 | | 140 | | 2,000 | | 2,400 | |
| | Apr-13 | 5 | J | 3.2 | J | 340 | | 94 | | 56 | | 40 | | 650 | | 8,300 | |
| | Jul-13 | <1.6 | | <1.9 | | 19 | | 12 | | 75 | | 18 | | 450 | | 5,500 | |
| | Oct-13 | <1.6 | | <1.9 | | 150 | | 53 | | 33 | | 10 | J | 160 | | 2,300 | |
| | Jan-14 | <1.6 | | <1.9 | | 68 | | <1.9 | | 110 | | 11 | | 200 | | 7,200 | |
| | Apr-14 | 44 | | <1.9 | | 16 | | 11 | | 110 | | <1.4 | | 64 | | 5,600 | |
| | Oct-14 | <0.75 | | 4.1 | J | 7.2 | | 7.3 | | 19 | | <1.1 | | 25 | | 400 | |
| | Apr-15 | <74 | | <48 | | <41 | | <50 | | 180 | | 63 | J | 760 | | 11,000 | |
| | Oct-15 | <3.7 | | <2.4 | | 2.4 | J | <2.5 | | 37 | | <2.4 | | 18 | | 350 | |
| MW-27 | Nov-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | 3 | | 2 | | 350 | | 5 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | 40 | | 22 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | 92 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.86 | J | 1.6 | J | 8.3 | | 200 | | 0.63 | J | <2 | | 0.29 | J | 3.4 | J |
| | Jan-12 | 0.17 | J | 0.42 | J | 1.8 | | 19 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | 0.26 | J | 0.4 | J | 1.7 | | 15 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | 0.26 | J | 1.4 | | 21 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | 0.33 | J | 1.1 | | 16 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | 0.36 | J | 0.88 | J | 2.1 | | 20 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | 0.33 | J | 1 | J | 6.5 | | <0.18 | | <0.15 | | 0.35 | J | 3.9 | |
| | Jul-13 | <0.16 | | 0.8 | J | 2.6 | | 18 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | 2.9 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | 2.1 | | 13 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | 1.9 | | 9.7 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 2.2 | | 12 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | 0.79 | J | 4.7 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | 0.62 | J | 10 | | 30 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-28 | Oct-02 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | 2.3 | | **0.44** | **J** | **14** | | 3.4 | | **0.82** | **J** | <0.33 | | **0.27** | **J** | **2.2** | |
| | Apr-15 | 5.8 | | **1.1** | | **33** | | 8.1 | | **1.6** | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | 32 | | **6.9** | | **220** | | 80 | | 10 | | <0.96 | | <0.66 | | **1.6** | **J** |
| MW-29 | Oct-06 | 1,500 | | 340 | | 1,500 | | 24 | | **2** | | <2 | | **67** | | **51** | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | 2,300 | | 320 | | 1,700 | | 64 | | **3** | | <2 | | **63** | | **57** | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | 1,100 | | 320 | | 2,100 | | 74 | | <5 | | <5 | | **35** | | **98** | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | 500 | | 300 | | 3,200 | | 150 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 180 | | 72 | | 2,300 | | 220 | | <20 | | <20 | | 1,300 | | **2,800** | |
| | Jan-12 | 200 | | 77 | | 2,500 | | 280 | | <20 | | <20 | | 1,100 | | **2,500** | |
| | Apr-12 | 100 | | 62 | | 1,900 | | 200 | | **6.3** | **J** | **7.6** | **J** | 950 | | **2,100** | |
| | Jul-12 | 110 | | 54 | | 1,900 | | 230 | | **6.8** | **J** | <20 | | **510** | | **1,000** | |
| | Oct-12 | 71 | | 44 | | 1,600 | | 110 | | <20 | | <20 | | **200** | | **370** | |
| | Jan-13 | 110 | | 41 | | 1,300 | | 140 | | **6** | **J** | **6.7** | **J** | 1,300 | | **2,900** | |
| | Apr-13 | 130 | | 76 | | 2,500 | | 490 | | 11 | | **4.1** | | 750 | | **1,500** | |
| | Jul-13 | 120 | | 69 | | 2,800 | | 460 | | 15 | | **5.4** | **J** | 800 | | **1,700** | |
| | Oct-13 | 140 | | 66 | | 6,100 | | 760 | | 20 | | **10** | **J** | 1,200 | | **2,500** | |
| | Jan-14 | 330 | | 110 | | 5,900 | | 790 | | 23 | | **20** | | 3,100 | | **6,600** | |
| | Apr-14 | 200 | | 150 | | 8,400 | | 880 | | 25 | | **21** | | 1,900 | | **4,000** | |
| | Oct-14 | 74 | | 55 | | 4,300 | | 660 | | <13 | | **21** | **J** | 1,800 | | **4,300** | |
| | Apr-15 | 160 | | 90 | | 5,900 | | 790 | | <22 | | **25** | **J** | 3,300 | | **7,300** | |
| | Oct-15 | 110 | | 130 | | 9,000 | | 1,000 | | <43 | | <48 | | 1,700 | | **4,700** | |
| MW-30 | Oct-11 | 0.51 | **J** | **0.55** | **J** | **13** | | **2.9** | | **0.55** | **J** | <1 | | <1 | | <2 | |
| | Jan-12 | 0.18 | **J** | **0.46** | **J** | **13** | | 3.1 | | **0.47** | **J** | <1 | | <1 | | **0.58** | **J** |
| | Apr-12 | 0.19 | **J** | **0.43** | **J** | **9.4** | | **2.6** | | **0.44** | **J** | <1 | | <1 | | <2 | |
| | Jul-12 | 0.45 | **J** | **0.45** | **J** | **7.7** | | **2.4** | | **0.43** | **J** | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | **0.4** | **J** | **11** | | 3.6 | | **0.54** | **J** | <1 | | <1 | | <2 | |
| | Jan-13 | 0.2 | **J** | **0.38** | **J** | **9.4** | | 3.1 | | **0.54** | **J** | <1 | | <1 | | <2 | |
| | Apr-13 | 0.32 | **J** | **0.32** | **J** | **7.8** | | 4.5 | | **0.85** | **J** | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | **11** | | <0.19 | | **1.8** | | <0.14 | | <0.19 | | **2.6** | |
| | Oct-13 | <0.16 | | <0.19 | | **6.2** | | **2.5** | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | **5.6** | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | 0.4 | **J** | **0.4** | **J** | **5** | | <0.19 | | **0.48** | **J** | <0.14 | | **1** | **J** | **2.2** | |
| | Oct-14 | 0.39 | **J** | <0.13 | | **2.3** | | **1.2** | | **0.35** | **J** | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | **1.7** | | **0.88** | **J** | <0.43 | | <0.48 | | <0.33 | | **1.3** | |
| | Oct-15 | <0.74 | | <0.48 | | **1.7** | | **2.0** | | **0.43** | **J** | <0.48 | | <0.33 | | <0.23 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| **Well ID** | **Sample Date** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** |
| MW-31 | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.24 | J |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.21 | J |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.33 | J | 2.4 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.43 | J | <0.18 | | <0.25 | | <0.33 | | 0.33 | J | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-32 | Oct-11 | 7.2 | J | 11 | | 1,500 | | 35 | | <10 | | <10 | | 31 | | 35 | |
| | Jan-12 | 130 | | 61 | | 2,100 | | 53 | | <20 | | <20 | | 45 | | 56 | |
| | Apr-12 | 210 | | 100 | | 2,000 | | 54 | | <20 | | <20 | | 28 | | 22 | J |
| | Jul-12 | 200 | | 140 | | 1,100 | | 40 | | <10 | | <10 | | 17 | | 16 | J |
| | Oct-12 | 1,700 | | 470 | | 1,700 | | 110 | | <10 | | <10 | | 54 | | 26 | |
| | Jan-13 | 2,800 | | 530 | | 940 | | 93 | | <20 | | <20 | | 61 | | 27 | J |
| | Apr-13 | 2,800 | | 520 | | 980 | | 120 | | 0.94 | J | 2.8 | | 75 | | 42 | |
| | Jul-13 | 2,200 | | 570 | | 750 | | 96 | | <1.6 | | <1.4 | | 66 | | 40 | |
| | Oct-13 | 6,200 | | 1,300 | | 1,600 | | 220 | | <1.6 | | 7.2 | J | 160 | | 110 | |
| | Jan-14 | 6,500 | | 1,300 | | 1,600 | | 230 | | <1.6 | | <1.4 | | 180 | | 170 | |
| | Apr-14 | 6,000 | | 1,500 | | 2,200 | | 230 | | <1.6 | | <1.4 | | 200 | | 130 | |
| | Oct-14 | 1,900 | | 680 | | 1,100 | | 100 | | 8.3 | J | <6.6 | | 36 | | 29 | J |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.42 | | <0.33 | | <0.23 | |
| | Oct-15 | 1.3 | | 0.49 | J | 0.81 | J | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-33 | Oct-11 | 5,200 | | 3,200 | | 16,000 | | 840 | | <200 | | <200 | | 370 | | 2,200 | |
| | Jan-12 | 1,100 | | 190 | | 4,100 | | 370 | | <50 | | <50 | | 94 | | 450 | |
| | Apr-12 | 13 | | 11 | | 1,800 | | 390 | | 12 | | 9.3 | J | 46 | | 390 | |
| | Jul-12 | 40 | J | 35 | J | 3,000 | | 290 | | <50 | | <50 | | 34 | J | 88 | J |
| | Oct-12 | 37 | | 35 | | 2,300 | | 330 | | <20 | | <20 | | 28 | | 70 | |
| | Jan-13 | 5.9 | | 9.9 | | 390 | | 130 | | 1.7 | J | 2.3 | | 7.3 | | 15 | |
| | Apr-13 | 1.2 | | 4.7 | | 380 | | 130 | | 1.3 | | 1.5 | | 5.3 | | 12 | |
| | Jul-13 | 15 | | 5.1 | J | 500 | | 220 | | <1.6 | | <1.4 | | 8.9 | J | 24 | |
| | Oct-13 | 1.2 | | 4.8 | | 800 | | 480 | | 1.8 | | 2 | | 9 | | 26 | |
| | Jan-14 | <1.6 | | <1.9 | | 340 | | 300 | | <1.6 | | <1.4 | | 16 | | 40 | |
| | Apr-14 | <1.6 | | 8.4 | J | 360 | | 140 | | <1.6 | | <1.4 | | 7 | J | 25 | |
| | Oct-14 | 1.2 | J | 9.7 | | 390 | | 440 | | <1.3 | | 3.5 | J | 9.4 | | 37 | |
| | Apr-15 | <0.74 | | 2.8 | | 150 | | 100 | | 1.7 | | 1.7 | | 3.1 | | 11 | |
| | Oct-15 | 5.0 | | 48 | | 260 | | 170 | | <2.2 | | <2.4 | | 4.6 | J | 19 | |
| MW-34 | Oct-11 | 2.2 | | 1.7 | | 44 | | 14 | | 1.6 | | <1 | | <1 | | <2 | |
| | Jan-12 | 13 | | 4.4 | | 80 | | 8.8 | | 3.6 | | <1 | | <1 | | <2 | |
| | Apr-12 | 4.3 | | 2.2 | | 64 | | 16 | | 2.3 | | <1 | | <1 | | <2 | |
| | Jul-12 | 2.3 | | 1.3 | | 35 | | 7.8 | | 1.3 | | <1 | | <1 | | <2 | |
| | Oct-12 | 4.9 | | 1.8 | | 45 | | 8.6 | | 1.8 | | <1 | | <1 | | <2 | |
| | Jan-13 | 8.6 | | 2.5 | | 43 | | 8.4 | | 1.9 | | <1 | | <1 | | <2 | |
| | Apr-13 | 2.7 | | 0.91 | J | 19 | | 5.7 | | 0.76 | J | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | 3 | | 1 | J | 24 | | 0.19 | | 1.1 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | 6.1 | | 3.1 | | 36 | | 9.8 | | 1.3 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | 2.4 | | <0.19 | | 14 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | 0.51 | J | <0.19 | | 4.2 | | <0.19 | | 0.26 | J | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | 1.1 | | 0.23 | J | 5.1 | | 1.8 | | <0.25 | | <0.33 | | 0.17 | J | <0.20 | |
| | Apr-15 | 2.7 | | 0.52 | J | 9.9 | | 2.6 | | 0.47 | J | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | 4.2 | | 0.86 | J | 16 | | 4.4 | | 1.3 | | <0.48 | | <0.33 | | <0.23 | |
| MW-35 | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.16 | J | <0.18 | | <0.25 | | <0.33 | | 0.11 | J | <.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-36 | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | 0.33 | J | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.6 | J | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | 0.59 | J | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | 0.81 | J | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-37 | Jan-14 | 30 | | 16 | | 860 | | 130 | | 14 | | <0.14 | | <0.19 | | 1.9 | |
| | Apr-14 | 22 | | 11 | | 690 | | <0.19 | | 16 | | <0.14 | | 1.8 | | 3.8 | |
| | Oct-14 | 36 | | 12 | | 370 | | 93 | | 10 | | 0.91 | J | 0.83 | J | 2.4 | J |
| | Apr-15 | 19 | | 8.5 | | 350 | | 65 | | 6.4 | | <0.96 | | <0.66 | | 0.77 | J |
| | Oct-15 | 92 | | 25 | | 900 | | 200 | | 22 | | <2.4 | | 1.8 | J | 4.1 | J |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| **Well ID** | **Sample Date** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** | **Result** | **Flag** |
| PAN-MW-9 | Feb-91 | 14,000 | | 350 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Jul-91 | 9,200 | | 430 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Jun-96 | 3,040 | | < 2500 | | < 2,500 | | < 2500 | | NS | | NS | | NS | | NS | |
| | Sep-97 | 8,100 | | NR | | NR | | < 500 | | NS | | NS | | NS | | NS | |
| | Dec-98 | 7,400 | | NR | | NR | | < 250 | | < 250 | | < 250 | | 2,400 | | 5,200 | |
| | Dec-99 | 9,100 | | < 1000 | | < 400 | | < 400 | | NS | | NS | | NS | | NS | |
| | Oct-00 | 8,000 | | 360 | | 130 | | < 100 | | < 100 | | < 100 | | 3,900 | | 8,600 | |
| | Jun-01 | 9,800 | | 260 | J | 100 | J | < 200 | | < 500 | | < 500 | | 3,700 | | 8,500 | |
| | Aug-03 | 2,400 | | < 500 | | < 500 | | < 200 | | < 500 | | < 500 | | 1,100 | | 2,000 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 6,900 | | 440 | | 300 | | 35 | | < 50 | | < 25 | | 3,100 | | 7,300 | |
| | Jul-04 | 3,200 | | 270 | | 170 | | 14 | | < 10 | | < 5 | | 8,400 | | 22,000 | |
| | Sep-04 | 6,000 | | 360 | | < 250 | | < 100 | | < 500 | | < 250 | | 2,200 | | 5,100 | |
| | May-05 | 1,100 | | 320 | | 220 | | < 100 | | < 100 | | < 100 | | 6,000 | | 16,000 | |
| | Aug-05 | 80 | | 9 | | 5 | | < 2 | | <2 | | < 5 | | 60 | | 150 | |
| | Jun-06 | 1,600 | | 480 | | 550 | | < 40 | | < 200 | | < 100 | | 730 | | 1,800 | |
| | Oct-06 | 1,500 | | 300 | | 990 | | < 40 | | < 200 | | < 100 | | 990 | | 2,600 | |
| | Dec-06 | 1,900 | | 640 | | 600 | | 23 | | < 2 | | < 2 | | 1,800 | | 4,900 | |
| | Mar-07 | 600 | | 370 | | 680 | | < 40 | | < 200 | | < 100 | | 4,500 | | 12,000 | |
| | Sep-07 | 1,500 | | 450 | | 880 | | < 40 | | < 40 | | < 40 | | 1,900 | | 5,400 | |
| | May-08 | 510 | | 190 | | 590 | | 18 | | < 2 | | 3 | | 8,800 | | 24,000 | |
| | Dec-08 | 540 | | 150 | | 500 | | 25 | | < 5 | | < 5 | | 3,900 | | 11,000 | |
| | Apr-09 | 460 | | 150 | | 780 | | < 40 | | < 100 | | < 100 | | 2,400 | | 6,300 | |
| | Sep-09 | 440 | | 150 | | 730 | | 49 | | < 10 | | < 10 | | 2,300 | | 6,100 | |
| | Apr-10 | 710 | | 140 | | 530 | | 93 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 350 | | 1,100 | | 780 | | 62 | | < 50 | | < 50 | | 1,900 | | 4,200 | |
| | Jan-12 | 690 | | 770 | | 820 | | 55 | | < 20 | | < 20 | | 2,000 | | 5,800 | |
| | Apr-12 | 280 | | 1,300 | | 1,100 | | 45 | | < 20 | | < 20 | | 1,900 | | 5,500 | |
| | Jul-12 | 37 | | 1,200 | | 1,300 | | 65 | | < 25 | | < 25 | | 890 | | 2,600 | |
| | Oct-12 | 210 | | 1,200 | | 1,800 | | 110 | | < 25 | | < 25 | | 1,800 | | 4,900 | |
| | Jan-13 | 540 | | 480 | | 1,200 | | 69 | | < 25 | | < 25 | | 1,100 | | 3,500 | |
| | Apr-13 | 240 | | 500 | | 1,400 | | 120 | | 2.8 | J | 3.4 | J | 1,000 | | 3,700 | |
| | Jul-13 | 55 | | 790 | | 1,200 | | 88 | | < 1.6 | | < 1.4 | | 760 | | 2,200 | |
| | Oct-13 | 29 | | 440 | | 2,500 | | 76 | | 1.1 | | 1.5 | | 1,000 | | 2,600 | |
| | Jan-14 | 17 | | 300 | | 2,100 | | 190 | | < 1.6 | | < 1.4 | | 1,100 | | 2,700 | |
| | Apr-14 | 22 | | 190 | | 2,000 | | 140 | | <1.6 | | <1.4 | | 960 | | 2,400 | |
| | Oct-14 | 17 | | 35 | | 1,900 | | 130 | | 4.4 | J | <3.3 | | 650 | | 1,800 | |
| | Apr-15 | <7.4 | | 4.9 | J | 2,000 | | 130 | | 5.2 | J | <4.8 | | 580 | | 1,400 | |
| | Oct-15 | <15 | | <9.6 | | 2,900 | | 160 | | 8.6 | J | <9.6 | | 560 | | 1,500 | |
| PAN-MW-10 | Feb-91 | 37 | | < 5 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Sep-97 | 10 | | NR | | NR | | < 5 | | NS | | NS | | NS | | NS | |
| | Dec-98 | < 1 | | NR | | NR | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | |
| | Nov-99 | < 5 | | < 5 | | < 2 | | < 2 | | NS | | NS | | NS | | NS | |
| | Oct-00 | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jun-01 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 10 | |
| | Aug-03 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 10 | |
| | Sep-07 | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 5 | |
| | Apr-09 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 5 | |
| | Apr-10 | < 5 | | < 5 | | < 5 | | < 2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.79 | J | 2.6 | | 1.3 | | < 1 | | < 1 | | 3.7 | | < 1 | | 9.9 | |
| | Jan-12 | < 1 | | 0.21 | J | 3.7 | | 0.2 | J | 0.28 | J | 1.2 | | < 1 | | 17 | |
| | Apr-12 | < 1 | | < 1 | | 0.71 | J | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jul-12 | < 1 | | < 1 | | 0.29 | J | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Oct-12 | < 1 | | < 1 | | 1.4 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jan-13 | < 1 | | < 1 | | 1.2 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Apr-13 | < 0.22 | | < 0.20 | | 0.82 | J | < 0.30 | | < 0.18 | | <0.097 | | < 0.15 | | < 0.31 | |
| | Jul-13 | < 0.16 | | < 0.19 | | < 0.21 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Oct-13 | < 0.16 | | < 0.19 | | 0.76 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Jan-14 | < 0.16 | | < 0.19 | | 1.3 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.19 | | <0.14 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.34 | J | <0.18 | | <0.25 | | <0.11 | | <0.33 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Notes:**
**0.79** = Concentration above Minimum Detection Limit (MDL)
**39 =** Concentration above RRS
NR = Not Reported by Laboratory
NS = Not Sampled
NL = Not Located
NU = Not Useable due to siltation
NA = Not Avaliable
All data prior to October 2011 tabulated by ERM

# Table 3-5: Historical Groundwater Elevation Table
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Groundwater Potentiometric Surface Elevation (ft.) | | | | | | | | | | | | | | MW Min.* | MW Max.* | MW Range* | MW Avg.* | MW Var.* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct-11 | Jan-12 | Apr-12 | Jul-12 | Oct-12 | Jan-13 | Apr-13 | Jul-13 | Oct-13 | Jan-14 | Apr-14 | Oct-14 | Apr-15 | Oct-15 | | | | | |
| *IW-1R (1)* | NG | NG | NG | NG | NG | NG | NG | NG | NG | NG | NS | NS | NS | NS | NA | NA | NA | NA | NA |
| *IW-18 (1)* | 7.15 | 6.36 | 5.52 | 6.39 | 6.30 | 6.22 | 7.28 | 7.44 | 6.77 | 6.73 | 7.20 | 7.02 | 6.89 | 7.30 | 5.52 | 7.44 | 1.92 | 6.76 | 0.29 |
| *LAW-PZ-8R (1)* | 7.75 | 7.08 | 7.36 | 7.65 | 6.79 | 6.78 | 7.83 | 8.22 | 7.10 | 7.63 | 7.15 | 6.17 | 7.69 | 7.57 | 6.17 | 8.22 | 2.05 | 7.34 | 0.28 |
| *MW-14 (2)*[2] | NL | NL | NL | NL | NL | NL | NL | NL | 3.65 | 2.14 | 2.27 | 2.80 | 2.38 | 3.25 | 2.14 | 3.65 | 1.51 | 2.75 | 0.36 |
| *MW-16 (1)* | 5.67 | 4.36 | 4.31 | 5.24 | 4.34 | 4.04 | 4.72 | 4.91 | 5.15 | 4.40 | 5.09 | 4.70 | 4.98 | 5.30 | 4.04 | 5.67 | 1.63 | 4.80 | 0.22 |
| *MW-17R (1)* | 3.93 | 2.49 | 3.59 | 4.34 | 4.86 | 4.79 | 5.15 | 5.32 | 5.21 | 5.32 | 5.95 | 4.58 | 4.96 | 5.10 | 2.49 | 5.95 | 3.46 | 4.69 | 0.76 |
| *MW-18R (1)* | 7.65 | 6.81 | 7.32 | 7.58 | 6.92 | 6.76 | 7.80 | 8.03 | 7.15 | 7.55 | 8.02 | 7.58 | 7.94 | 8.07 | 6.76 | 8.07 | 1.31 | 7.51 | 0.21 |
| *MW-19 (1)* | 8.11 | 7.29 | 7.91 | 7.98 | 7.78 | 7.17 | 7.97 | 8.12 | 7.53 | 7.86 | 8.55 | 7.95 | 8.22 | 8.02 | 7.17 | 8.55 | 1.38 | 7.89 | 0.13 |
| *MW-23 (1)* | 6.39 | 5.65 | 6.51 | 6.25 | 6.18 | 5.71 | 6.34 | 5.63 | 6.19 | 6.19 | 7.43 | 5.63 | 6.97 | 6.45 | 5.63 | 7.43 | 1.80 | 6.25 | 0.27 |
| *MW-24R (1)* | 5.86 | 5.30 | 5.80 | 5.60 | 5.39 | 5.22 | 5.92 | 5.00 | 5.49 | 5.91 | 6.44 | 6.16 | 6.36 | 6.72 | 5.00 | 6.72 | 1.72 | 5.80 | 0.25 |
| *MW-25 (1)* | 7.91 | 7.14 | 7.81 | 7.93 | 7.64 | 7.12 | 8.05 | 8.20 | 7.41 | 7.84 | 8.43 | 7.96 | 8.25 | 8.02 | 7.12 | 8.43 | 1.31 | 7.84 | 0.15 |
| *MW-26R (1)* | 7.39 | 6.48 | 7.17 | 7.21 | 6.58 | 6.41 | 7.44 | 8.09 | 7.88 | 7.48 | 8.00 | 7.67 | 7.47 | 7.87 | 6.41 | 8.09 | 1.68 | 7.37 | 0.30 |
| *MW-27 (1)* | 5.06 | 4.10 | 4.89 | 4.77 | 4.42 | 4.30 | 4.66 | 4.47 | 4.58 | 4.61 | 5.66 | 5.45 | 5.30 | 5.17 | 4.10 | 5.66 | 1.56 | 4.82 | 0.21 |
| *MW-28 (2)* | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NS | NS | NS | NA | NA | NA | NA | NA |
| *MW-29 (0.75)* | 5.71 | 5.01 | 5.38 | 5.27 | 4.91 | 4.67 | 5.48 | 5.12 | 5.21 | 5.43 | 5.83 | 5.91 | 5.69 | 6.15 | 4.67 | 6.15 | 1.48 | 5.41 | 0.17 |
| *MW-30 (2)* | 6.28 | 5.60 | 5.99 | 6.09 | 5.75 | 5.29 | 6.18 | 6.27 | 6.76 | 6.23 | 6.63 | 6.28 | 6.18 | 6.45 | 5.29 | 6.76 | 1.47 | 6.14 | 0.15 |
| *MW-31 (2)* | 4.41 | 3.94 | 4.17 | 4.48 | 4.26 | 3.92 | 4.42 | 4.32 | NG | 4.47 | 5.05 | 5.11 | 5.19 | 5.08 | 3.92 | 5.19 | 1.27 | 4.52 | 0.20 |
| *MW-32 (2)* | 5.23 | 4.53 | 5.24 | 5.49 | 5.00 | 4.75 | 5.32 | 5.15 | 5.04 | 5.23 | 5.73 | 5.60 | 6.21 | 5.76 | 4.53 | 6.21 | 1.68 | 5.31 | 0.19 |
| *MW-33 (2)* | 6.54 | 5.67 | 6.17 | 5.90 | 5.05 | 5.07 | 6.60 | 6.41 | 7.07 | 6.24 | 7.02 | 6.48 | 6.58 | 6.87 | 5.05 | 7.07 | 2.02 | 6.26 | 0.41 |
| *MW-34 (2)* | 7.40 | 6.81 | 7.00 | 7.29 | 6.53 | 6.53 | 7.52 | 7.73 | 6.86 | 7.41 | 7.94 | 7.69 | 7.53 | 7.39 | 6.53 | 7.94 | 1.41 | 7.26 | 0.20 |
| *MW-35 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 4.77 | 4.73 | 4.91 | 4.93 | 4.87 | 4.73 | 4.93 | 0.20 | 4.84 | 0.01 |
| *MW-36 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 1.89 | 3.44 | 3.71 | 3.94 | 4.49 | 1.89 | 4.49 | 2.60 | 3.49 | 0.95 |
| *MW-37 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 7.42 | 7.88 | 7.77 | 7.60 | 7.57 | 7.42 | 7.88 | 0.46 | 7.65 | 0.03 |
| *PAN-MW-9 (2)* | 6.24 | 5.39 | 5.74 | 5.98 | 5.54 | 5.32 | 6.07 | 5.86 | 5.93 | 6.23 | 6.57 | 6.41 | 5.57 | 6.50 | 5.32 | 6.57 | 1.25 | 5.95 | 0.17 |
| *PAN-MW-10 (2)* | 3.45 | 2.47 | 2.94 | 3.51 | 3.19 | 3.35 | 3.43 | 3.82 | 3.53 | 3.50 | 4.13 | 4.37 | 6.10 | 5.68 | 2.47 | 6.10 | 3.63 | 3.82 | 0.99 |
| **Event Min.*[3]** | 3.45 | 2.47 | 2.94 | 3.51 | 3.19 | 3.35 | 3.43 | 3.82 | 3.53 | 1.89 | 3.44 | 3.71 | 3.94 | 4.49 | **Global Min.*[4]** | | 1.89 | | |
| **Event Max.*[3]** | 8.11 | 7.29 | 7.91 | 7.98 | 7.78 | 7.17 | 8.05 | 8.22 | 7.88 | 7.86 | 8.55 | 7.96 | 8.25 | 8.07 | **Global Max.*[4]** | | 8.55 | | |
| **Event Range*[3]** | 4.66 | 4.82 | 4.97 | 4.47 | 4.59 | 3.82 | 4.62 | 4.40 | 4.35 | 5.97 | 5.11 | 4.25 | 4.31 | 3.58 | **Global Range*[4]** | | 6.66 | | |
| **Event Avg.*[3]** | 6.22 | 5.39 | 5.83 | 6.05 | 5.65 | 5.44 | 6.22 | 6.22 | 6.16 | 5.92 | 6.49 | 6.14 | 6.39 | 6.47 | **Global Avg.*[4]** | | 6.04 | | |
| **Event Var.*[3]** | 1.88 | 2.14 | 2.03 | 1.69 | 1.50 | 1.32 | 1.90 | 2.30 | 1.43 | 2.46 | 2.04 | 1.63 | 1.50 | 1.34 | **Global Var.*[4]** | | 2.02 | | |

**Notes:**

NI - Not Installed

NS - Not Surveyed, TOC elevation information is not available for well

NL - Not Located

NA - Not Applicable

NG - Not Gauged

*** = Event Min, Max, Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for each respective groundwater gauging event.

*[2] = MW-14 is considered a deep well at the Site and is not considered for the shallow potentiometric surface at the Site.

***[3] = MW Min., Max., Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for each monitoring well throughout all gauging events from October 2011 to October 2015 where available.

***[4]= Global Min., Max., Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for all monitoring wells throughout all events from October 2011 to October 2015

# Table 4-1: Mixing Model Initial Groundwater Concentrations

| Constituents of Concern | Leading Edge Concentration, $C_{gw1}$ (µg/L) | Maximum Concentration Recorded During the September/October 2015 Sampling Event $C_{gw2}$ (µg/L) | Maximum Concentration Ever Recorded at the Site $C_{gw3}$ (µg/L) |
|---|---|---|---|
| PCE | 1.50E+00 | 7.40E+02 | 1.40E+04 |
| TCE | 9.60E-01 | 4.80E+02 | 3.20E+03 |
| DCE | 1.50E+02 | 9.00E+03 | 3.10E+04 |
| VC | 7.50E+01 | 1.00E+03 | 1.90E+03 |
| Benzene | 1.70E+00 | 1.20E+03 | 3.40E+03 |
| Toluene | 9.60E-01 | 4.80E+02 | 1.20E+03 |
| Ethylbenzene | 6.60E-01 | 6.20E+03 | 1.30E+04 |
| Xylenes | 4.60E-01 | 7.80E+04 | 1.80E+05 |

**Notes:**

Leading edge is assumed to be the concentration at MW-16 derived from EIC September/October 2015 groundwater sampling results, recorded in the 9th Semi-annual report, Table 3-4

Maximum Site Concentration September/October 2015 is the highest observed concentration for each constituent at the site during the September/October 2015 groundwater sampling event, recorded in the 9th Semi-annual report, Table 3-4

Maximum Concentration Ever Recorded is the maximum concentration of each constituent recorded at any well for any event as reported in the 9th Semi-annual report, Table 3-4

## Table 4-2: Modeled Downstream River Concentrations Compared to Water Quality Standards

| Constituents of Concern | Georgia Instream Water Quality Standards (µg/L)* | National Primary Drinking Water Standards (µg/L)*[2] | Estimated Downstream River Concentrations | | |
|---|---|---|---|---|---|
| | | | Utilizing Leading Edge $C_{gw1}$, $C_{Rd1}$ (µg/L) | Utilizing Event Maximum $C_{gw2}$, $C_{Rd2}$ (µg/L) | Utilizing Maximum Recorded $C_{gw3}$, $C_{Rd3}$ (µg/L) |
| PCE | 3.30E+00 | 5.00E+00 | 2.52E-07 | 1.24E-04 | 2.35E-03 |
| TCE | 3.00E+01 | 5.00E+00 | 1.61E-07 | 8.05E-05 | 5.37E-04 |
| DCE | NA | 7.00E+01 | 2.52E-05 | 1.51E-03 | 5.20E-03 |
| VC | 2.40E+00 | 2.00E+00 | 1.26E-05 | 1.68E-04 | 3.19E-04 |
| Benzene | 5.10E+01 | 5.00E+00 | 2.85E-07 | 2.01E-04 | 5.70E-04 |
| Toluene | 5.98E+03 | 1.00E+03 | 1.61E-07 | 8.05E-05 | 2.01E-04 |
| Ethylbenzene | 2.10E+03 | 7.00E+02 | 1.11E-07 | 1.04E-03 | 2.18E-03 |
| Xylenes | NA | 1.00E+04 | 7.71E-08 | 1.31E-02 | 3.02E-02 |

**Notes:**

Downstream river concentrations are based on the mixing formula below. The formula assumes that the groundwater flow discharging to the river from the entire length of the site is uniformly contaminated at each of the respective groundwater concentrations (Cgw)

NA = not applicable

$$C_{Rd} = C_{gw} * \left( \frac{Q_{gw}}{Q_{gw} + Q_{Ru}} \right) = C_{gw} * DF \text{ , where } DF = 1.68 * 10^{-7}$$

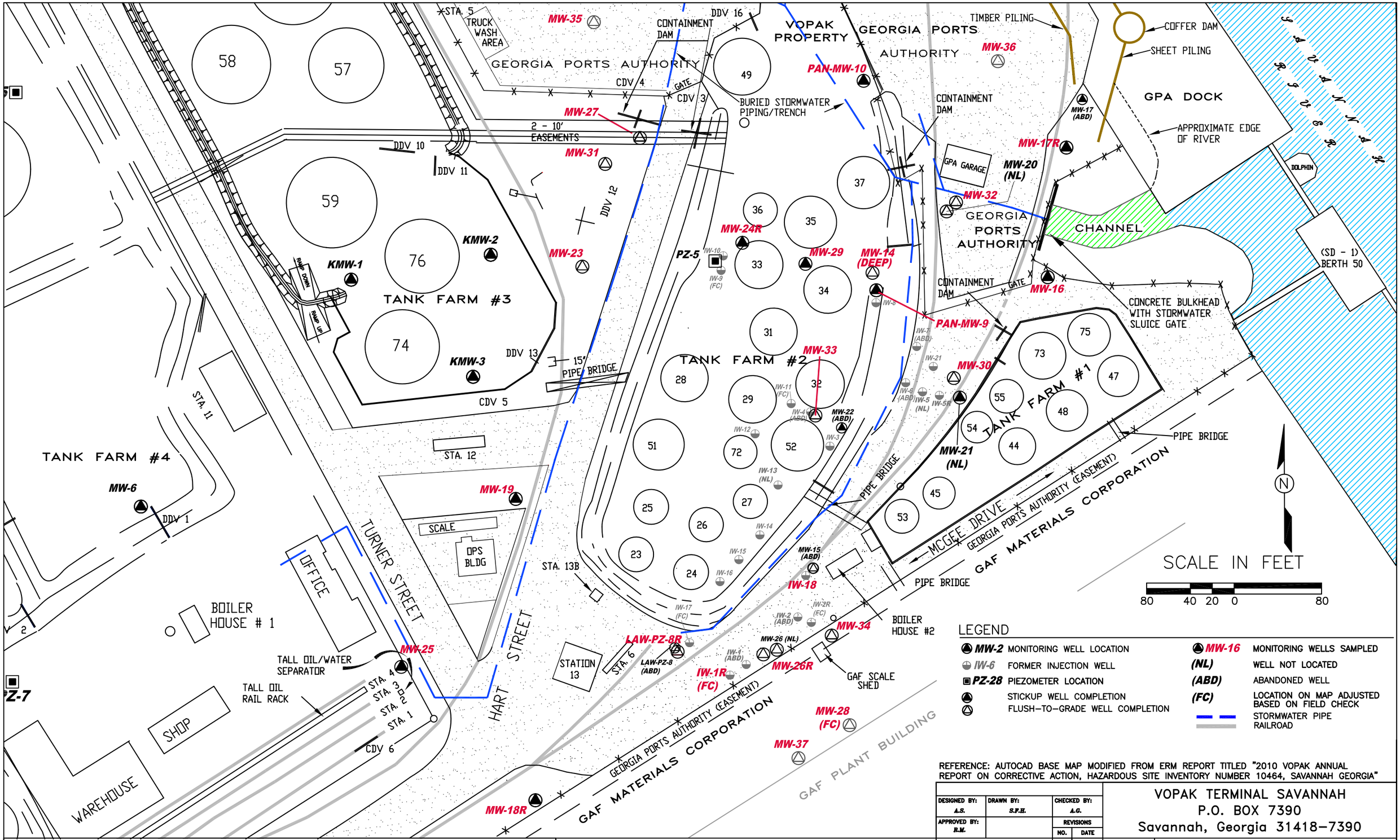

* EPD 2013. *Rules and Regulations for Water Quality Control, Chapter 391-3-6-.03*. Atlanta, Georgia. August 27, 2013.

*[2] EPA, 2009. National Primary Drinking Water Regulations. Washington, DC. May 2009

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# NINTH SEMI-ANNUAL PROGRESS REPORT

# FIGURES




## LEGEND

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| MW-16 | MONITORING WELLS SAMPLED |
| (NL) | WELL NOT LOCATED |
| (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| | STORMWATER PIPE |
| | RAILROAD |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

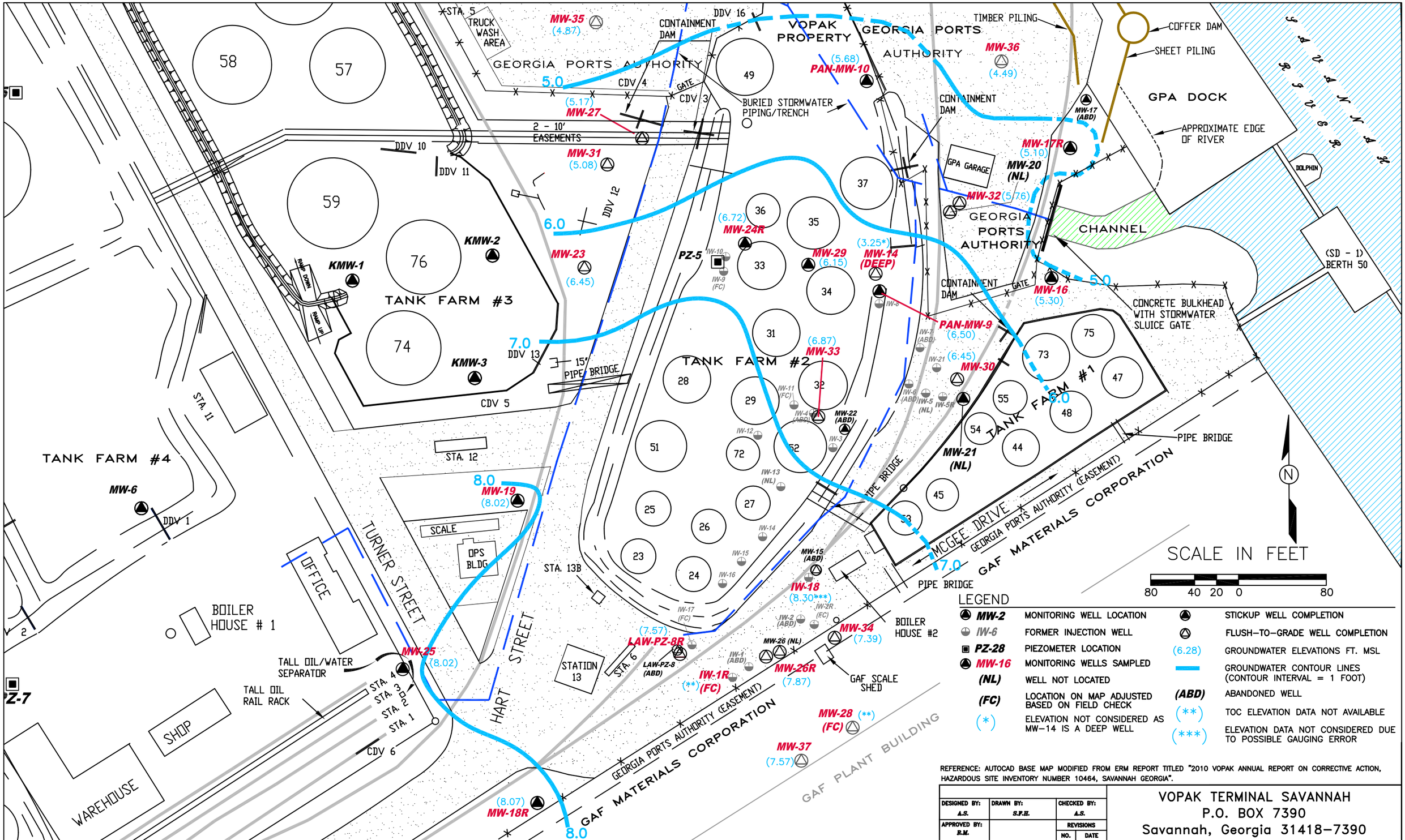
# FIGURE 3-1:
# SEPTEMBER 28 – OCTOBER 1, 2015
# SITE MAP

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/15/2016 | 390020 - 9TH SEMI-ANNUAL RPT | |




## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | ▲ | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | △ | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (6.28) | GROUNDWATER ELEVATIONS FT. MSL |
| MW-16 | MONITORING WELLS SAMPLED | | GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL = 1 FOOT) |
| (NL) | WELL NOT LOCATED | (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (**) | TOC ELEVATION DATA NOT AVAILABLE |
| (*) | ELEVATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | (***) | ELEVATION DATA NOT CONSIDERED DUE TO POSSIBLE GAUGING ERROR |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS. GROUNDWATER POTENTIOMETRIC SUREFACE ELEVATIONS ARE IN NGVD29 DATUM

# FIGURE 3-2
# GROUNDWATER POTENTIOMETRIC SURFACE MAP
# SEPTEMBER 28-OCTOBER 1, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.S. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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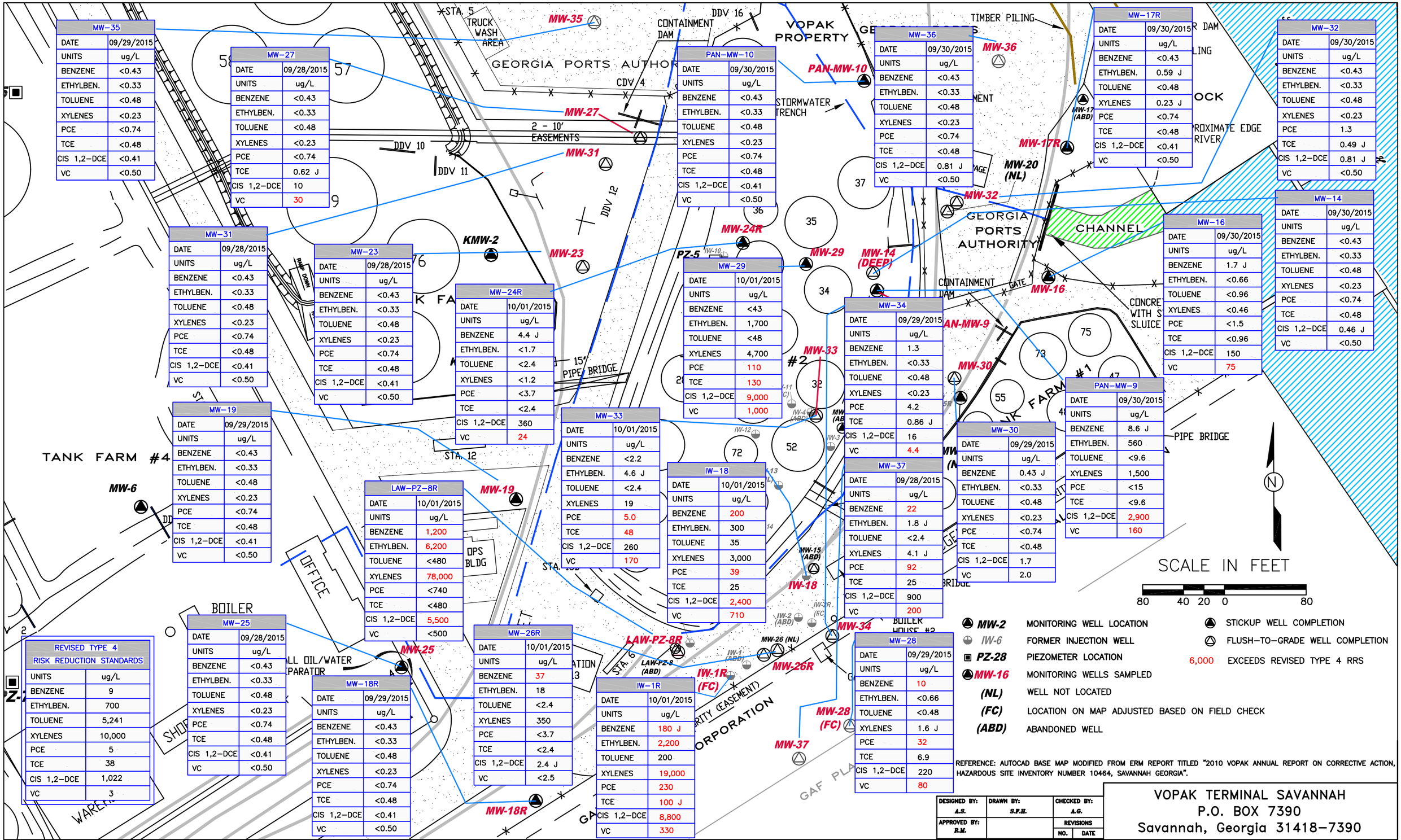
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/15/2016 | 390020 - 9TH SEMI-ANNUAL RPT | |




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-3:
# GROUNDWATER ANALYTICAL RESULTS
# SEPTEMBER 28-OCTOBER 1, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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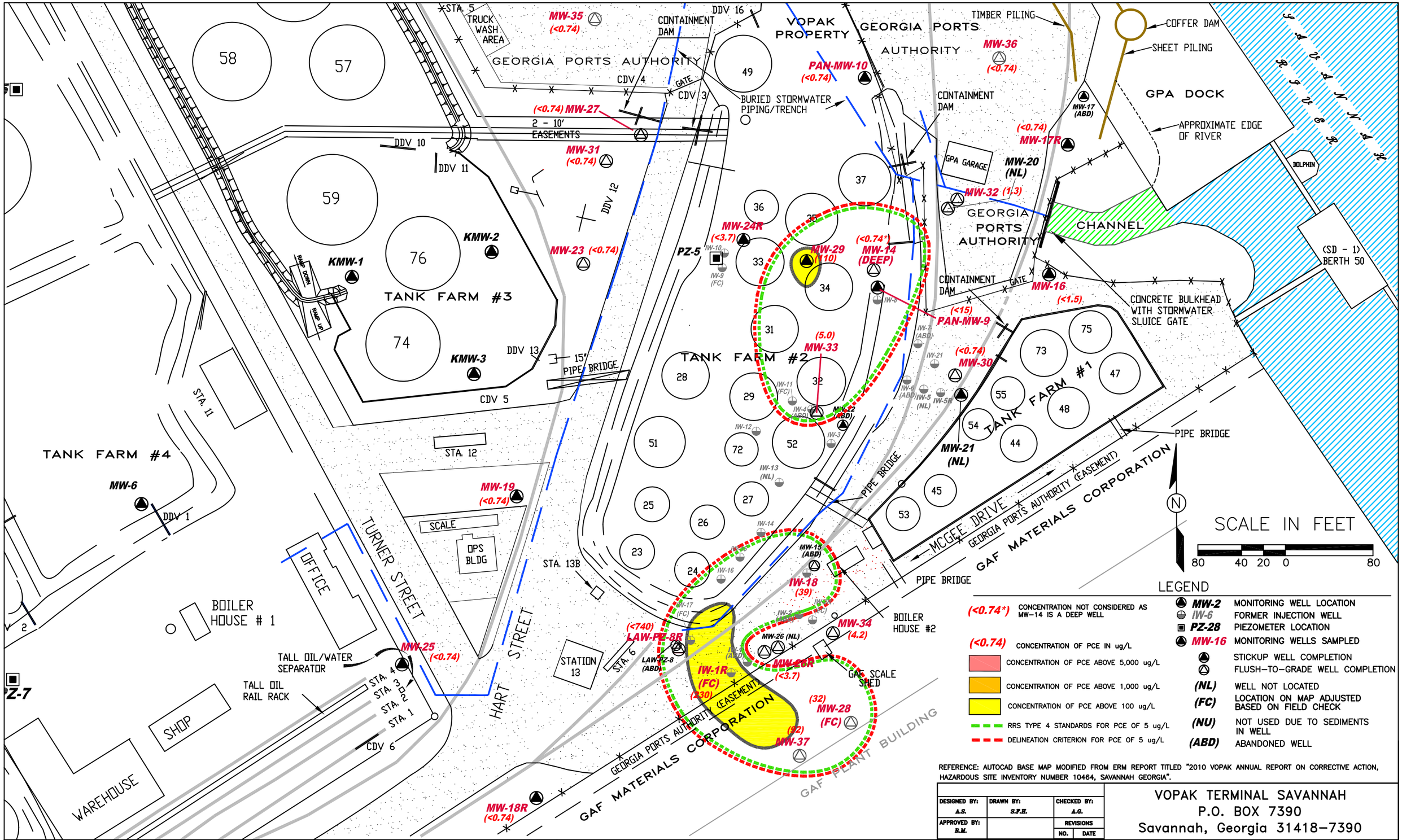
| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/15/2016 | 390020 - 9TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.74*) CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | MW-2 MONITORING WELL LOCATION |
| (<0.74) CONCENTRATION OF PCE IN ug/L | IW-6 FORMER INJECTION WELL |
| CONCENTRATION OF PCE ABOVE 5,000 ug/L | PZ-28 PIEZOMETER LOCATION |
| CONCENTRATION OF PCE ABOVE 1,000 ug/L | MW-16 MONITORING WELLS SAMPLED |
| CONCENTRATION OF PCE ABOVE 100 ug/L | STICKUP WELL COMPLETION |
| RRS TYPE 4 STANDARDS FOR PCE OF 5 ug/L | FLUSH-TO-GRADE WELL COMPLETION |
| DELINEATION CRITERION FOR PCE OF 5 ug/L | (NL) WELL NOT LOCATED |
| | (FC) LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| | (NU) NOT USED DUE TO SEDIMENTS IN WELL |
| | (ABD) ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-4:
# PCE ISOCONCENTRATION MAP
# SEPTEMBER 28-OCTOBER 1, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.P.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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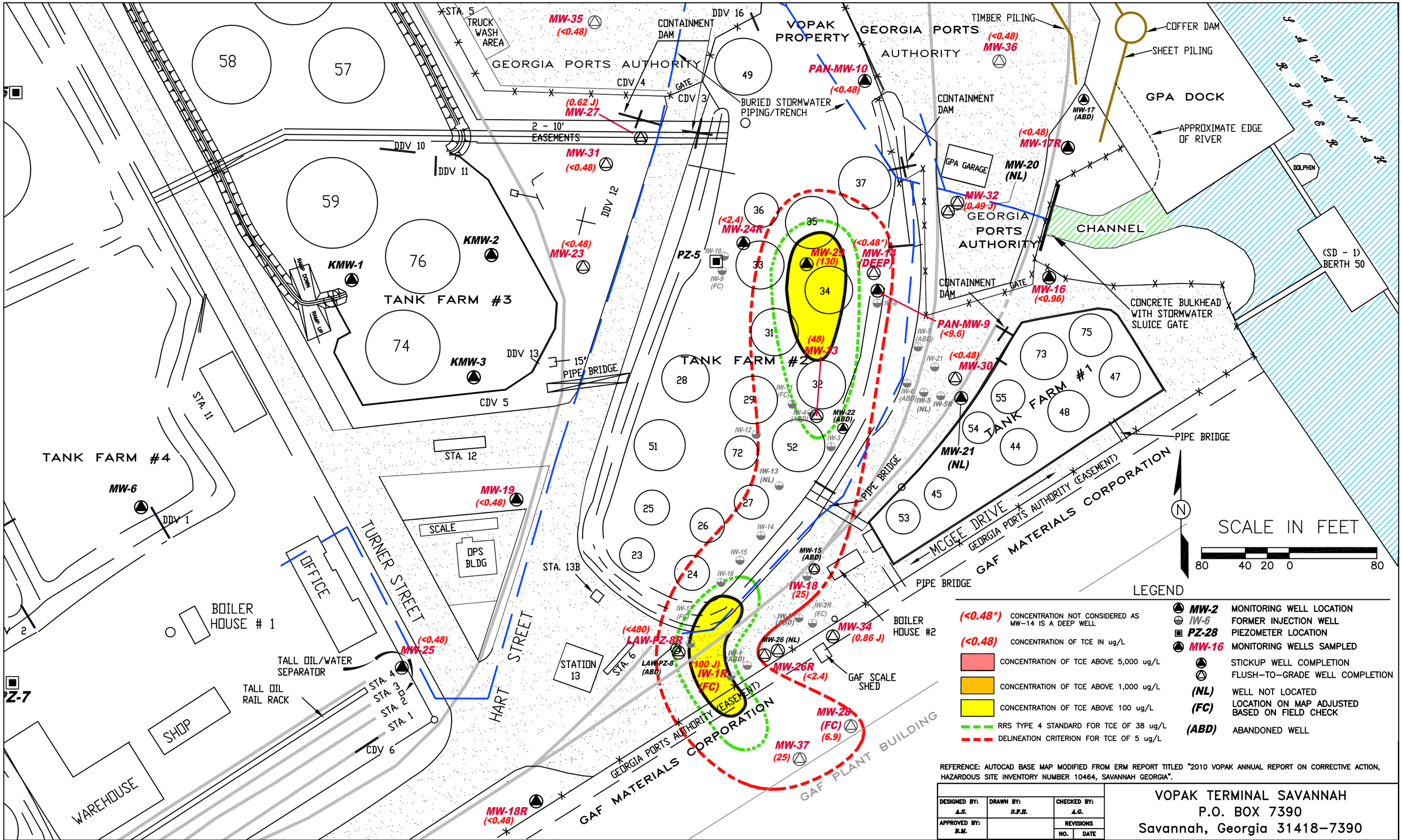
| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/15/2016 | 390020 - 9TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.48*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (<0.48) | CONCENTRATION OF TCE IN ug/L |
| | CONCENTRATION OF TCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF TCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF TCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR TCE OF 38 ug/L |
| | DELINEATION CRITERION FOR TCE OF 5 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-5:
# TCE ISOCONCENTRATION MAP
# SEPTEMBER 28-OCTOBER 1, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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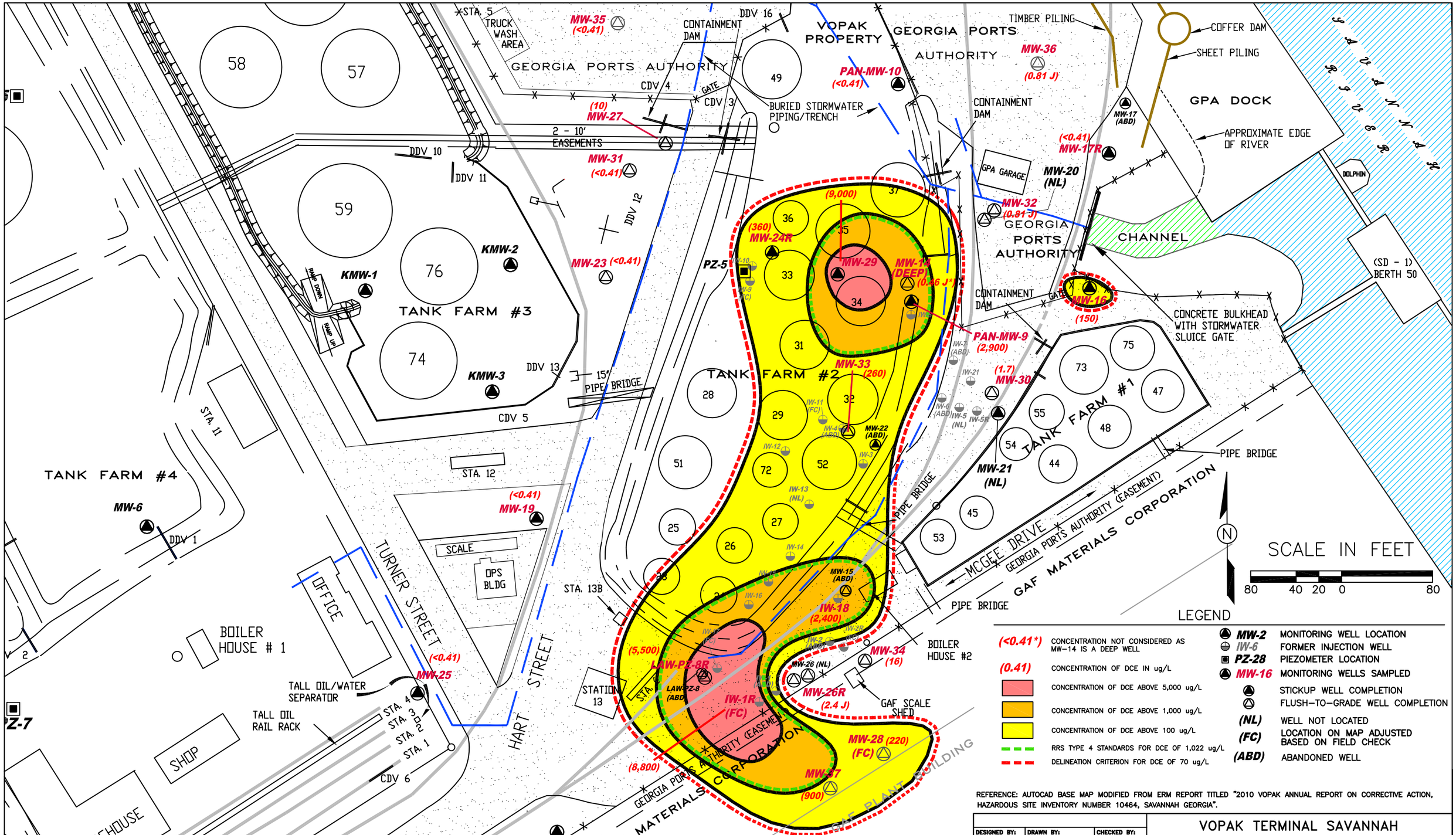


LEGEND

| | |
|---|---|
| (<0.41*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.41) | CONCENTRATION OF DCE IN ug/L |
| | CONCENTRATION OF DCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF DCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF DCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR DCE OF 1,022 ug/L |
| | DELINEATION CRITERION FOR DCE OF 70 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-6:
# CIS-1, 2 DCE ISOCONCENTRATION MAP
# SEPTEMBER 28-OCTOBER 1, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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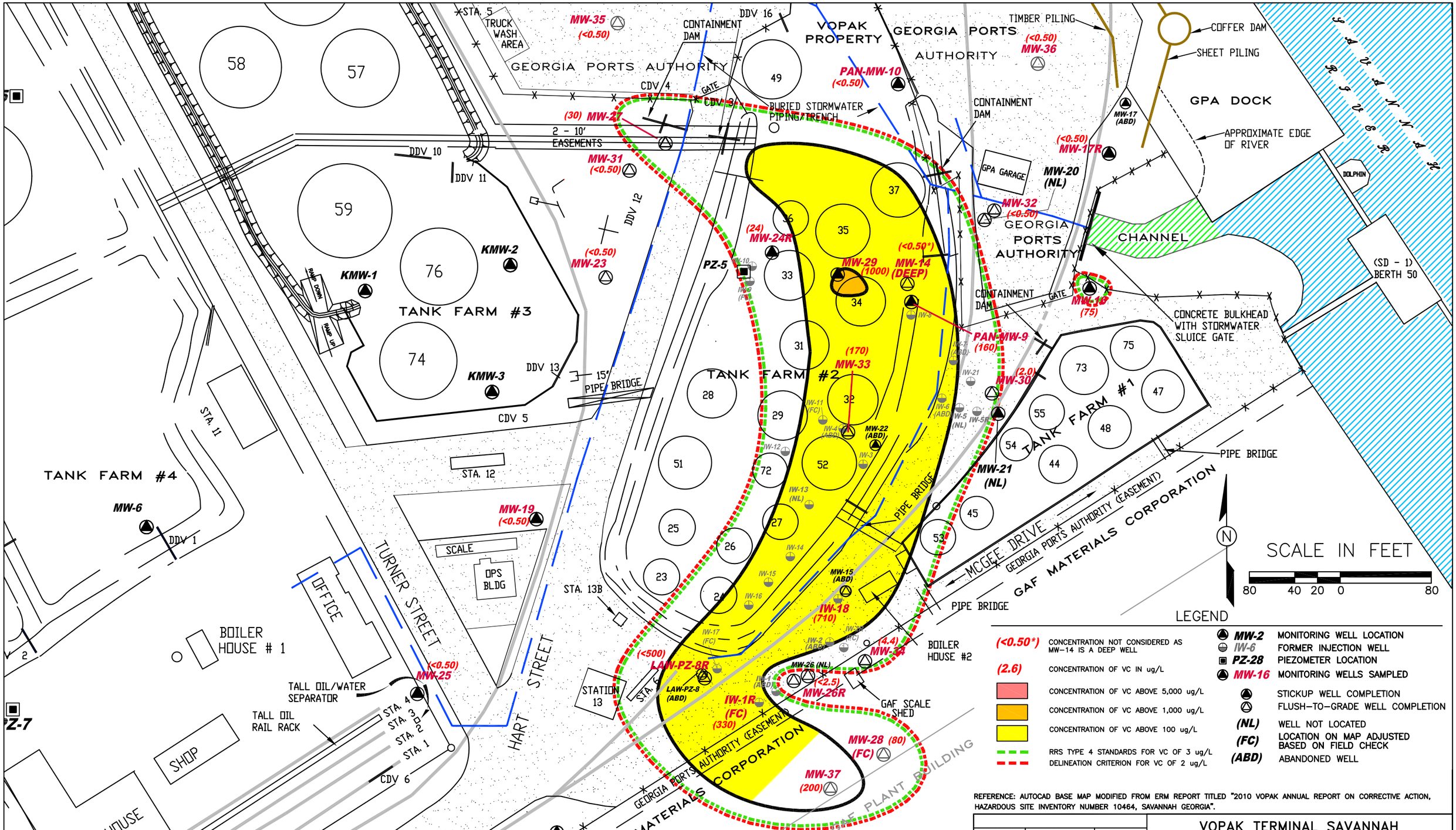
|---|---|---|---|
| SEE BAR SCALE | 02/15/2016 | 390020 - 9TH SEMI-ANNUAL RPT | |




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-7:
# VINYL CHLORIDE ISOCONCENTRATION MAP
# SEPTEMBER 28-OCTOBER 1, 2015

| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | S.F.H. | A.G. |
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

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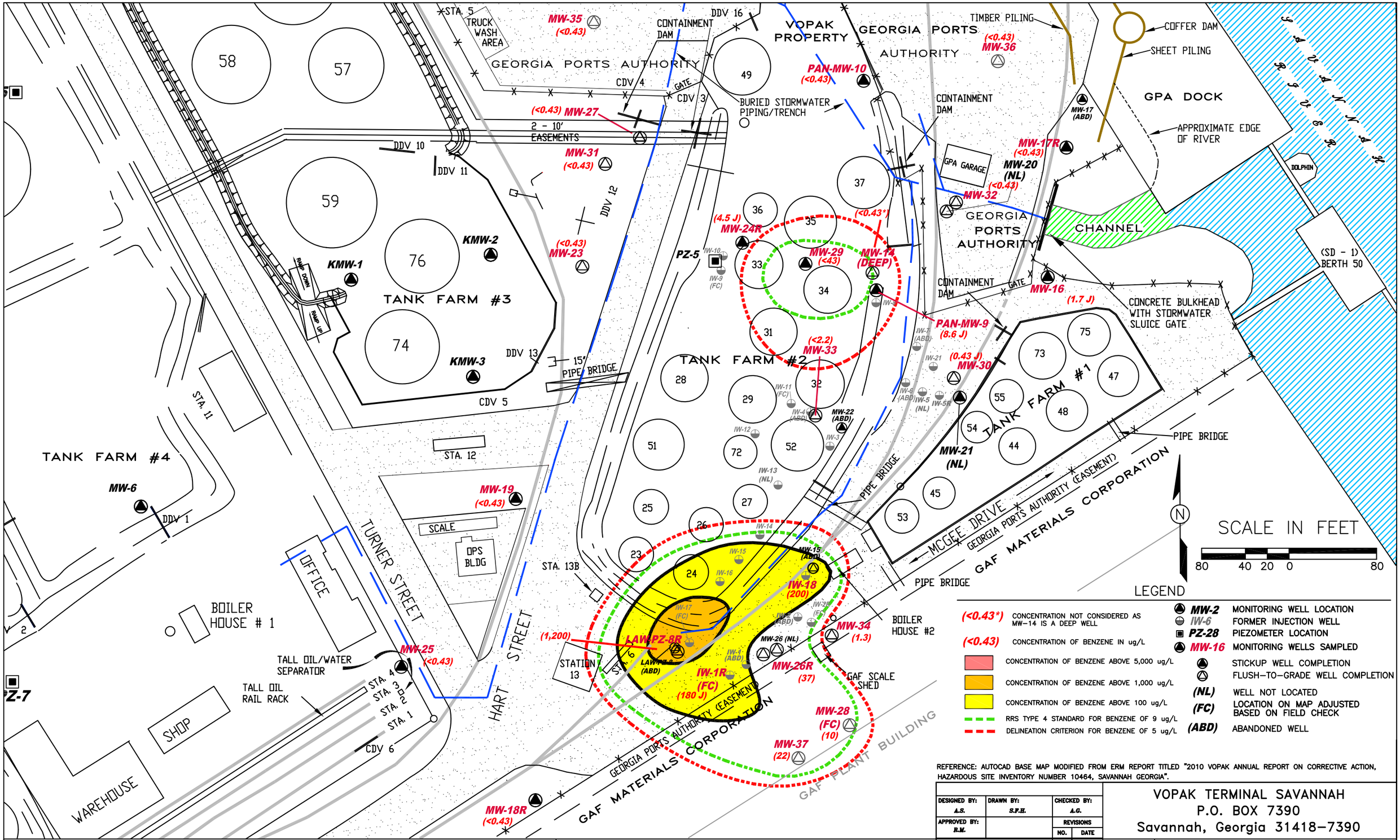
|---|---|---|---|
| SEE BAR SCALE | 02/15/2016 | 390020 - 9TH SEMI-ANNUAL RPT | |




LEGEND

| | |
|---|---|
| (<0.43*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (<0.43) | CONCENTRATION OF BENZENE IN ug/L |
| | CONCENTRATION OF BENZENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF BENZENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF BENZENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR BENZENE OF 9 ug/L |
| | DELINEATION CRITERION FOR BENZENE OF 5 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-8:
# BENZENE ISOCONCENTRATION MAP
# SEPTEMBER 28-OCTOBER 1, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

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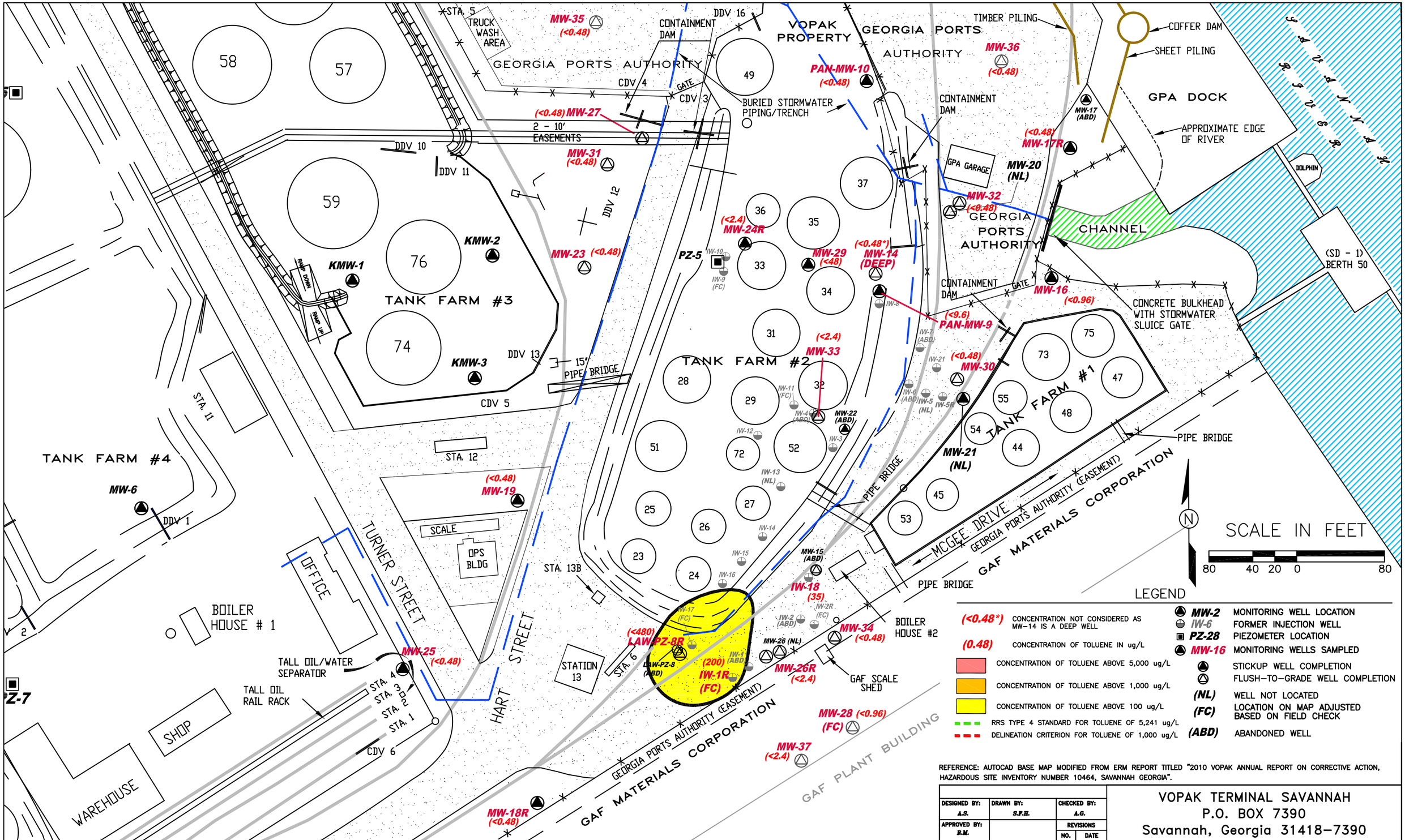
| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/15/2016 | 390020 - 9TH SEMI-ANNUAL RPT | |




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-9:
# TOLUENE ISOCONCENTRATION MAP
# SEPTEMBER 28-OCTOBER 1, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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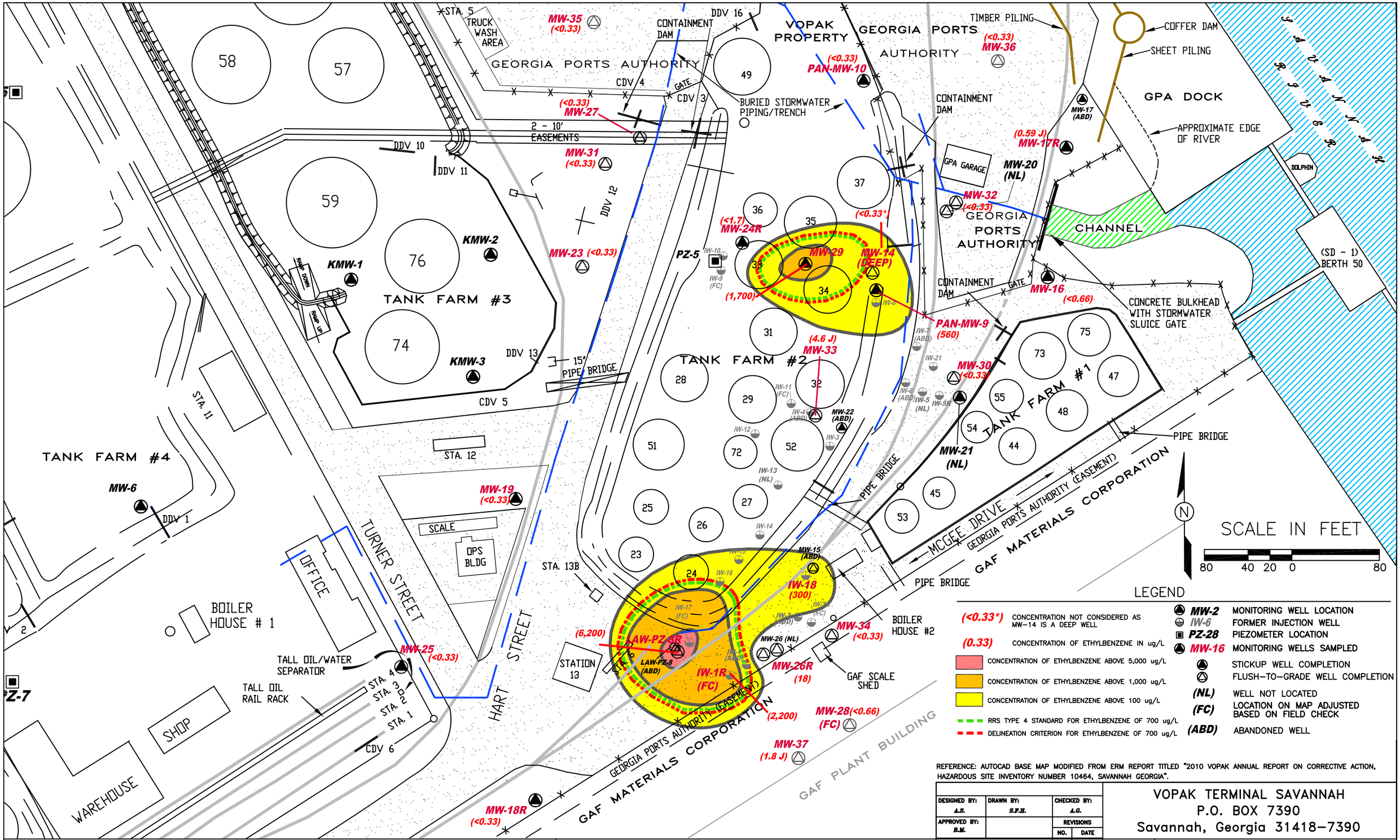
| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/15/2015 | 390020 - 9TH SEMI-ANNUAL RPT | |




## LEGEND

| | |
|---|---|
| (<0.33*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.33) | CONCENTRATION OF ETHYLBENZENE IN ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 5,000 ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 1,000 ug/L |
| | CONCENTRATION OF ETHYLBENZENE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR ETHYLBENZENE OF 700 ug/L |
| | DELINEATION CRITERION FOR ETHYLBENZENE OF 700 ug/L |

| | |
|---|---|
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-10:
# ETHYLBENZENE ISOCONCENTTRAION MAP
# SEPTEMBER 28-OCTOBER 1, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
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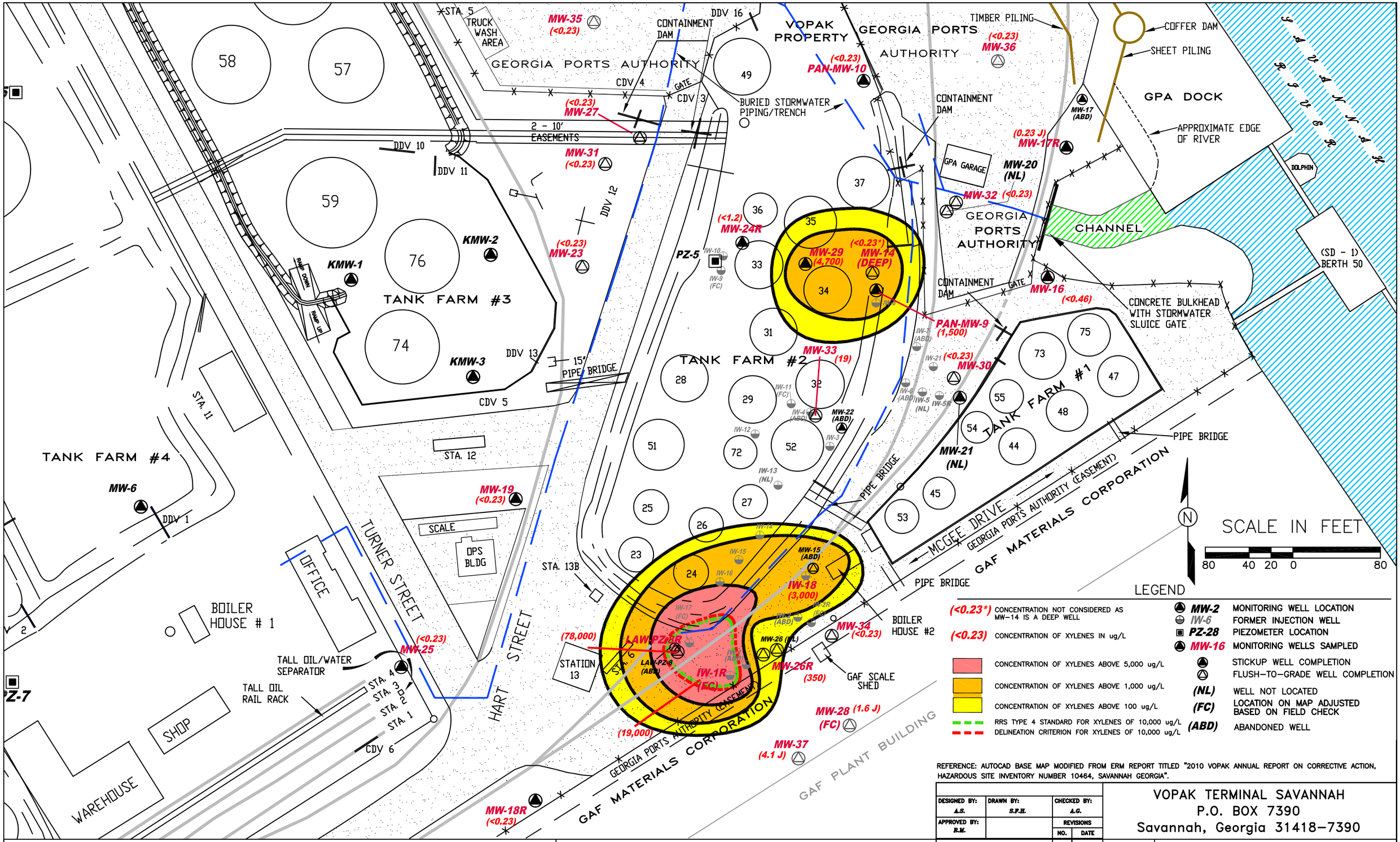


REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS.

# FIGURE 3-11:
# TOTAL XYLENES ISOCONCENTRATION MAP
# SEPTEMBER 28-OCTOBER 1, 2015

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

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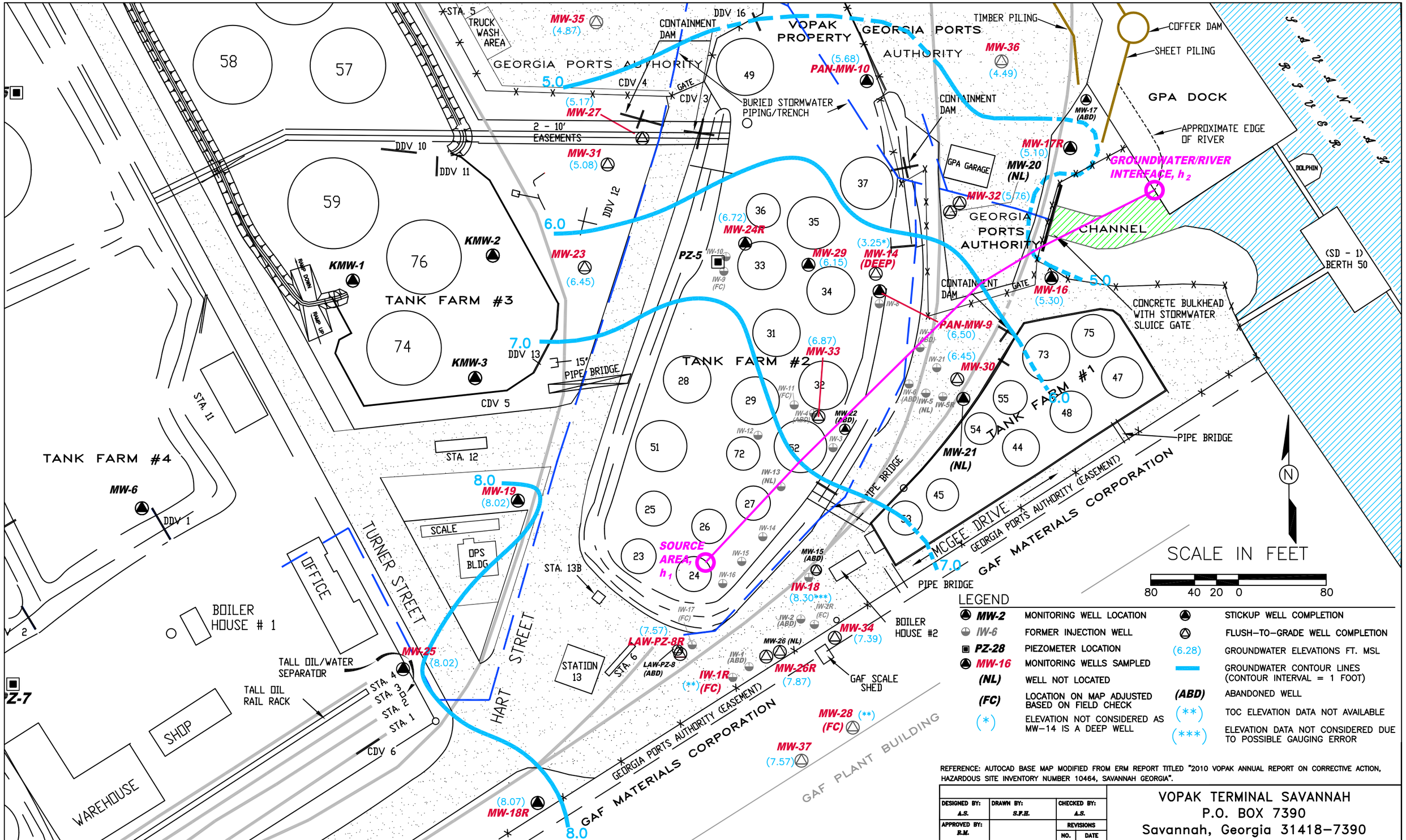
| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/15/2016 | 390020 - 9TH SEMI-ANNUAL RPT | |




## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | ▲ | STICKUP WELL COMPLETION |
| IW-6 | FORMER INJECTION WELL | △ | FLUSH-TO-GRADE WELL COMPLETION |
| PZ-28 | PIEZOMETER LOCATION | (6.28) | GROUNDWATER ELEVATIONS FT. MSL |
| MW-16 | MONITORING WELLS SAMPLED | | GROUNDWATER CONTOUR LINES (CONTOUR INTERVAL = 1 FOOT) |
| (NL) | WELL NOT LOCATED | (ABD) | ABANDONED WELL |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK | (**) | TOC ELEVATION DATA NOT AVAILABLE |
| (*) | ELEVATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | (***) | ELEVATION DATA NOT CONSIDERED DUE TO POSSIBLE GAUGING ERROR |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 WAS DISCOVERED ON 10/16/2014 AND PLOTTED BASED ON FIELD MEASUREMENTS. GROUNDWATER POTENTIOMETRIC SUREFACE ELEVATIONS ARE IN NGVD29 DATUM

# FIGURE 4-1
# MIXING MODEL LOCATIONS
# SEPTEMBER 28-OCTOBER 1, 2015

| | | |
|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.S. |
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |
| SEAL: | | |

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Savannah, Georgia 31418-7390

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161 KIMBALL BRIDGE ROAD
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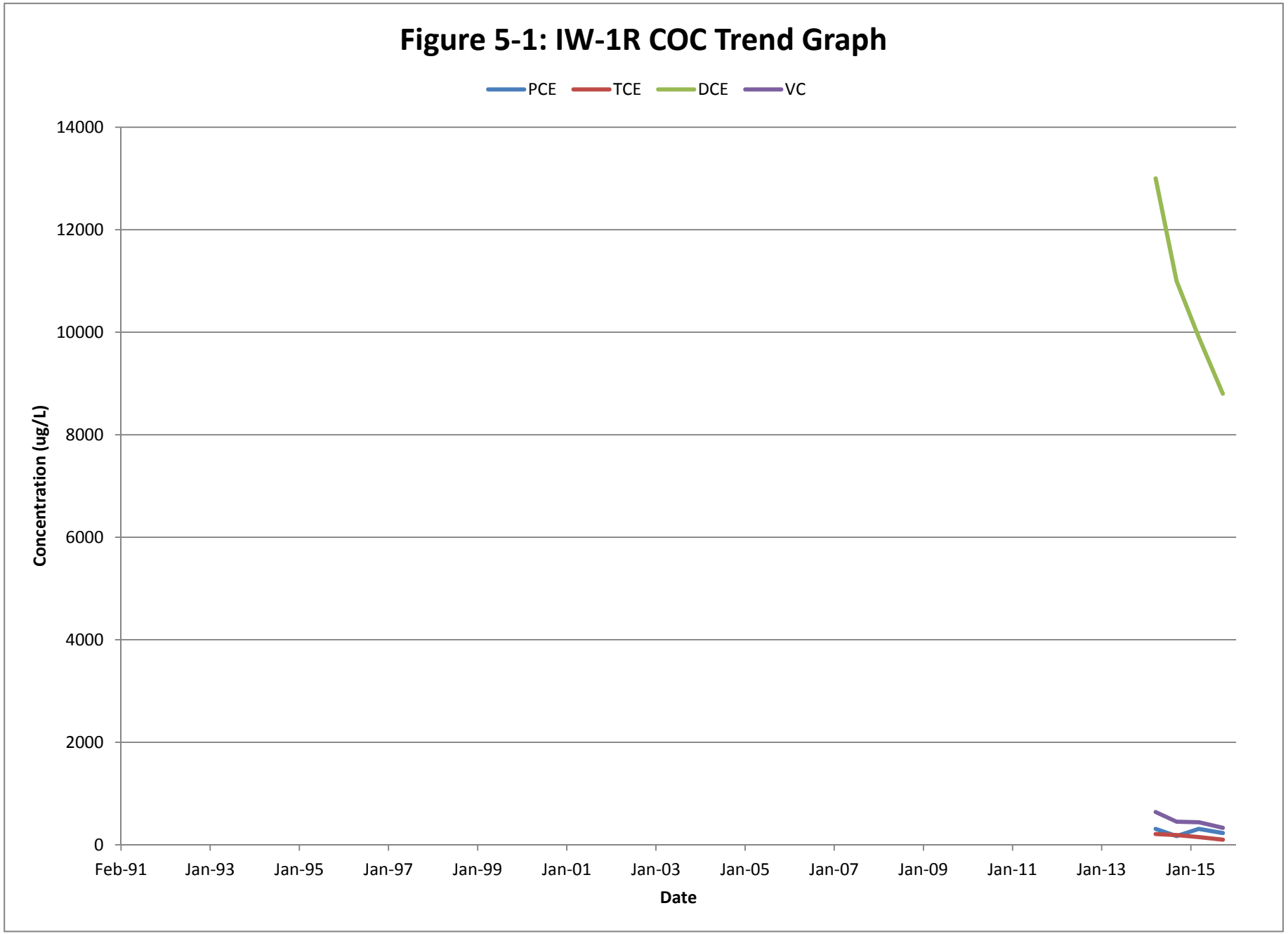
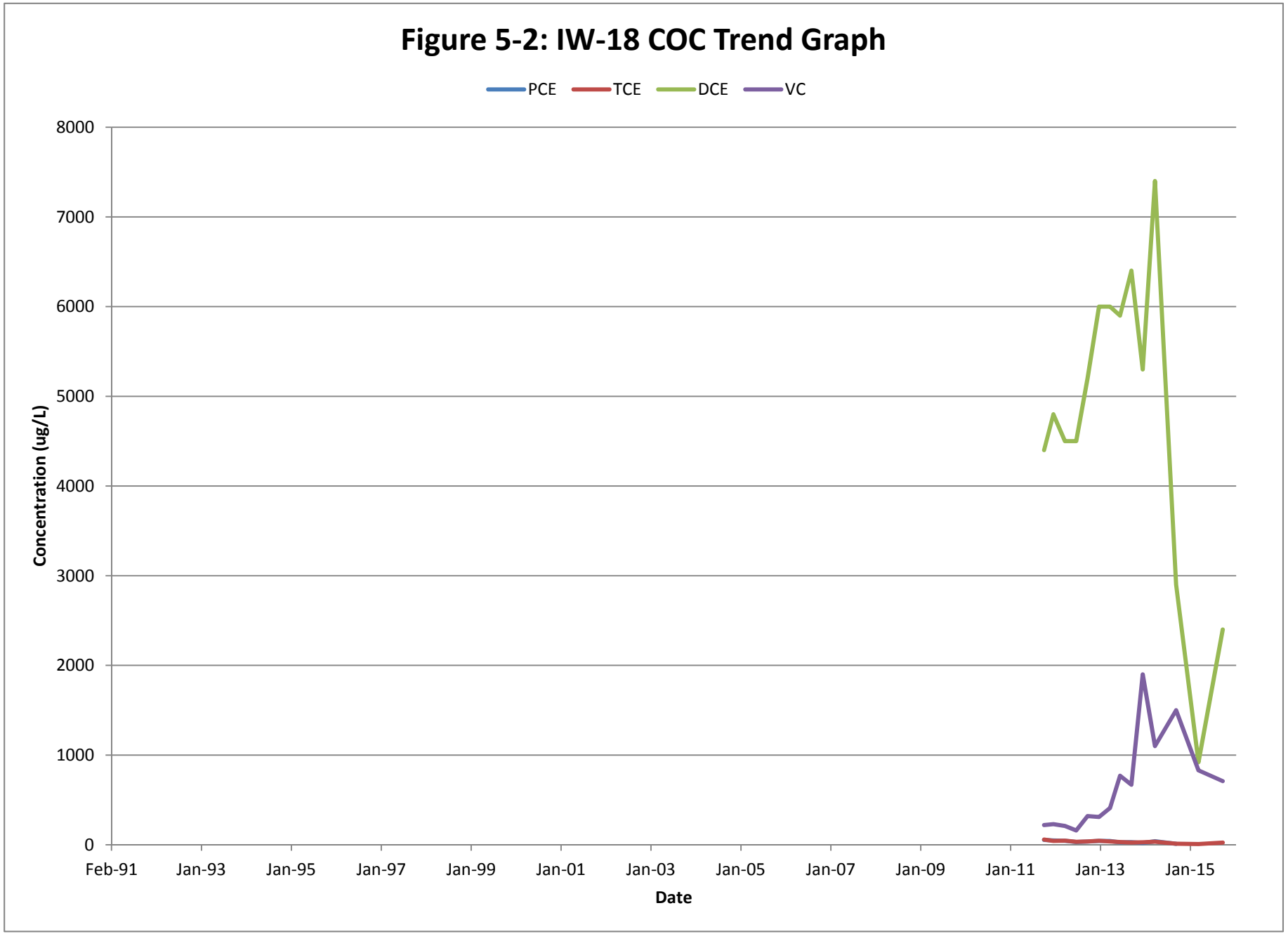
| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/15/2016 | 390020 - 9TH SEMI-ANNUAL RPT | |

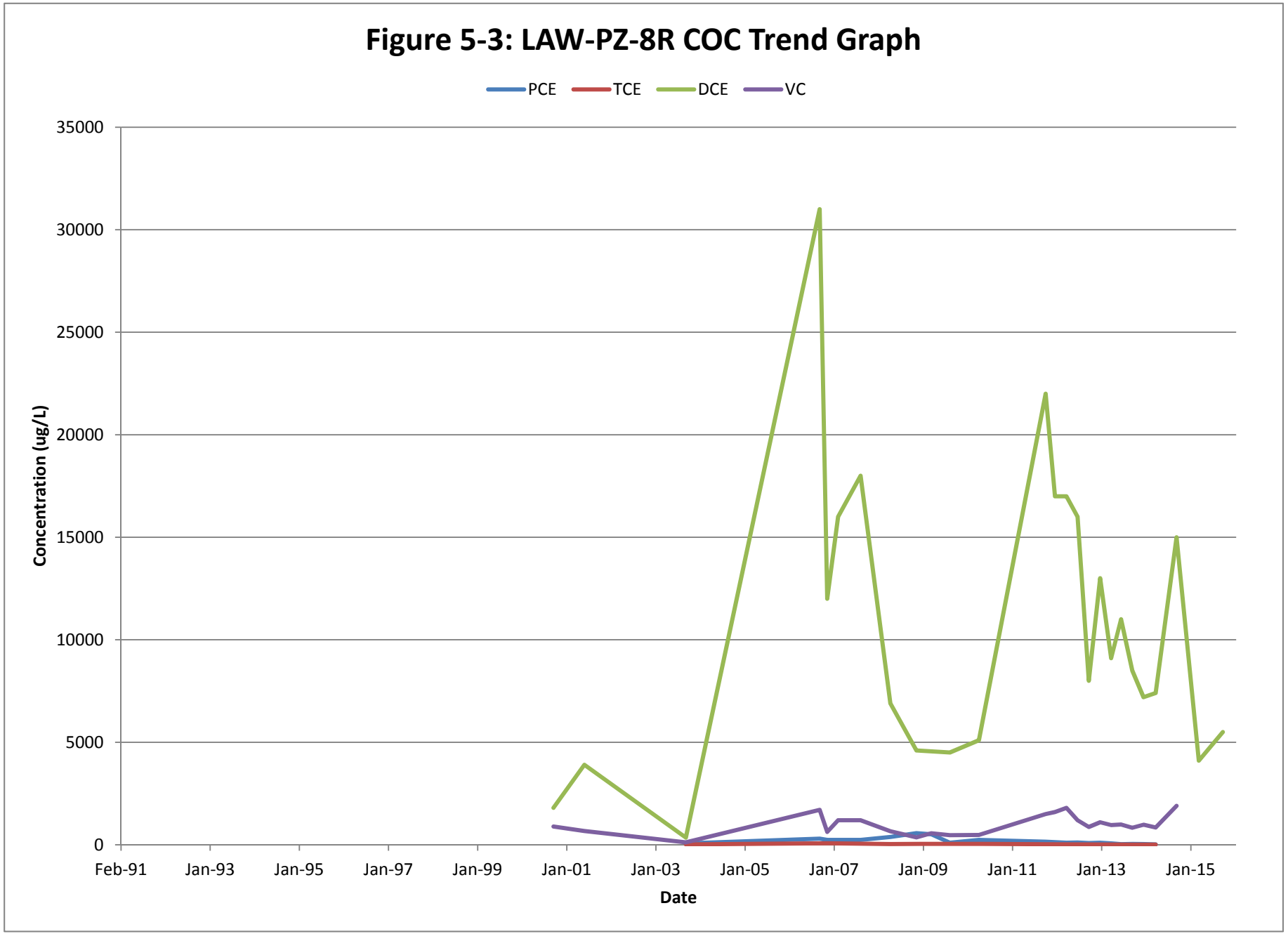
# Figure 5-1: IW-1R COC Trend Graph



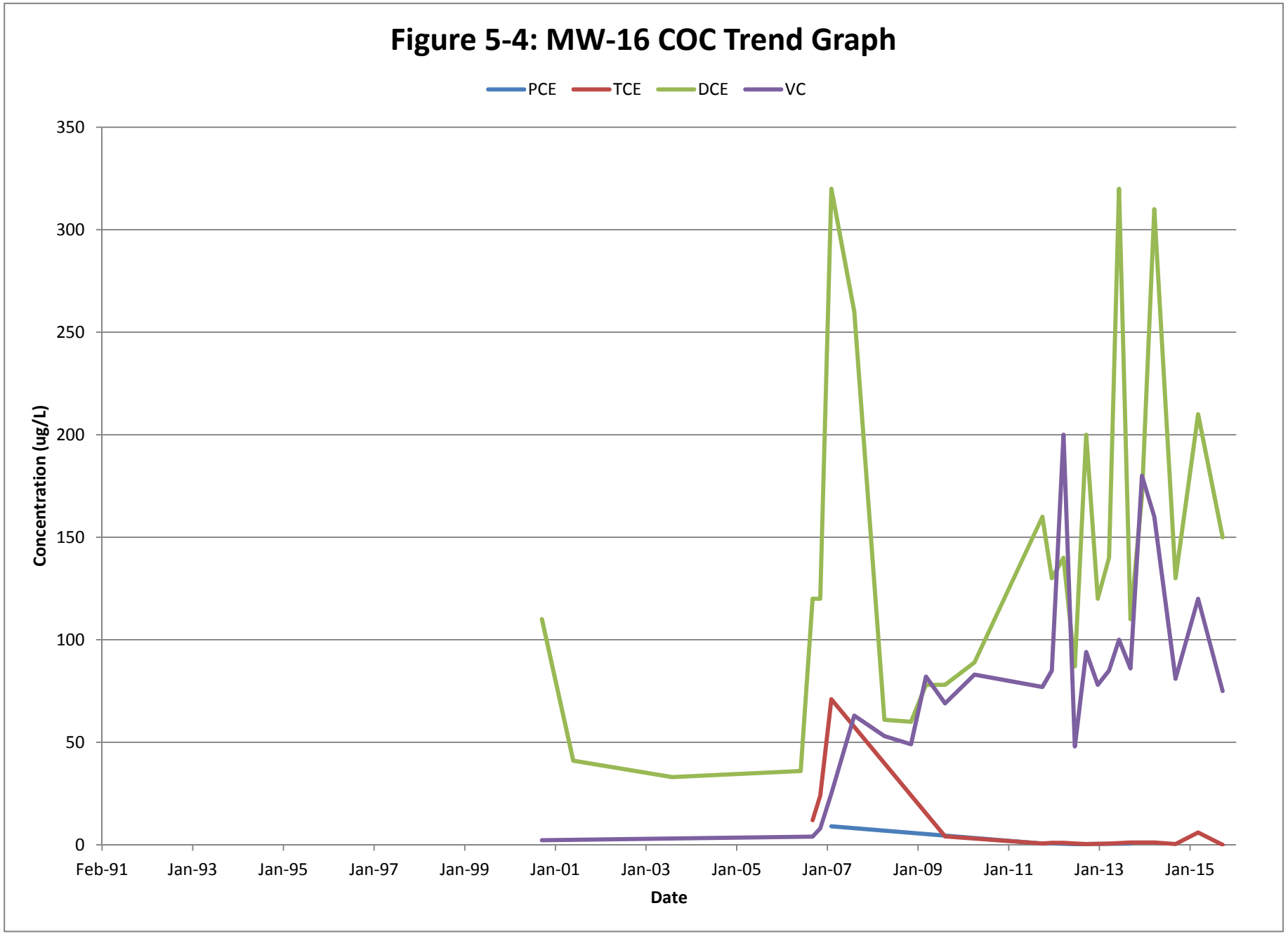
# Figure 5-2: IW-18 COC Trend Graph



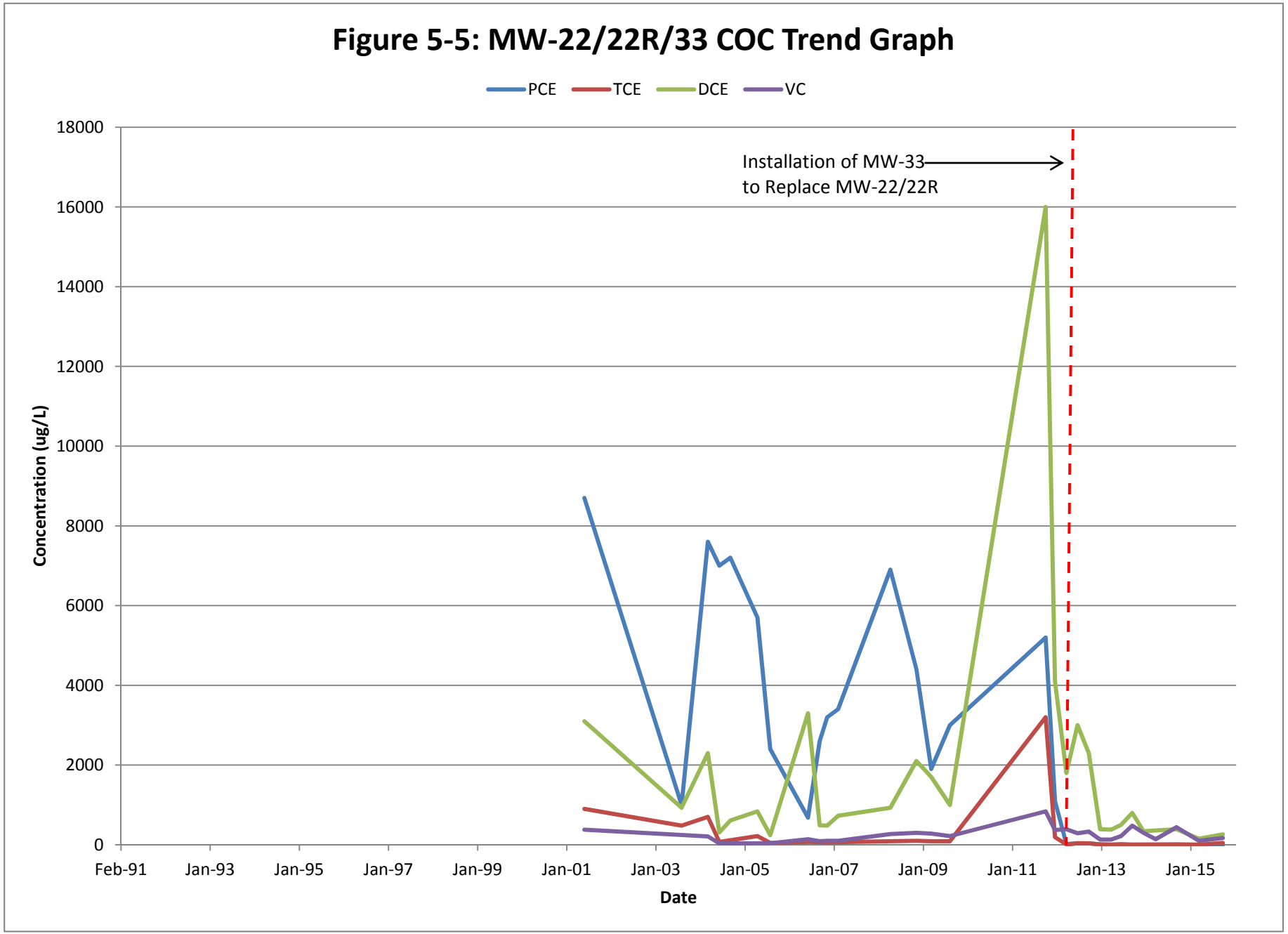
# Figure 5-3: LAW-PZ-8R COC Trend Graph



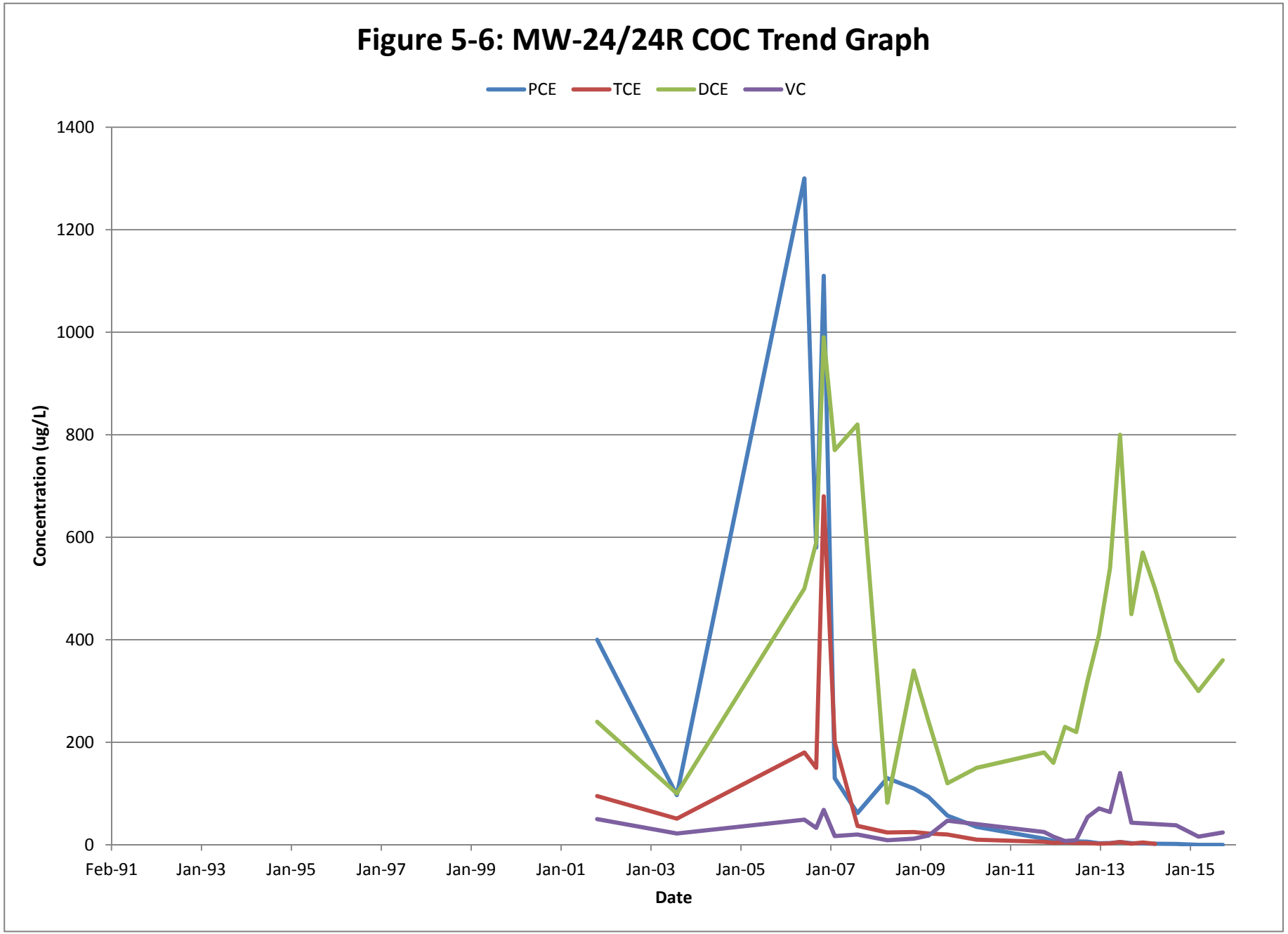
# Figure 5-4: MW-16 COC Trend Graph



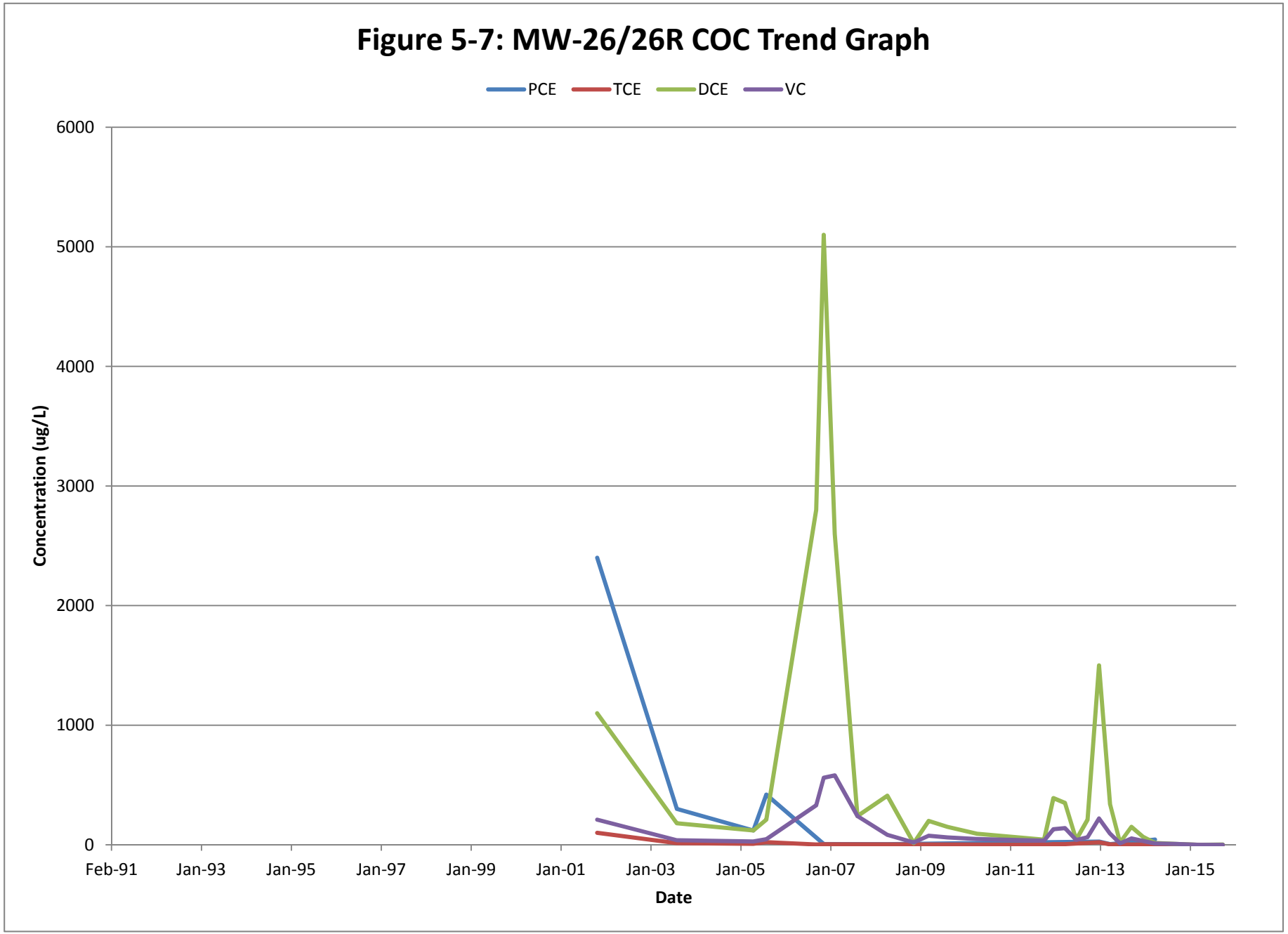
# Figure 5-5: MW-22/22R/33 COC Trend Graph



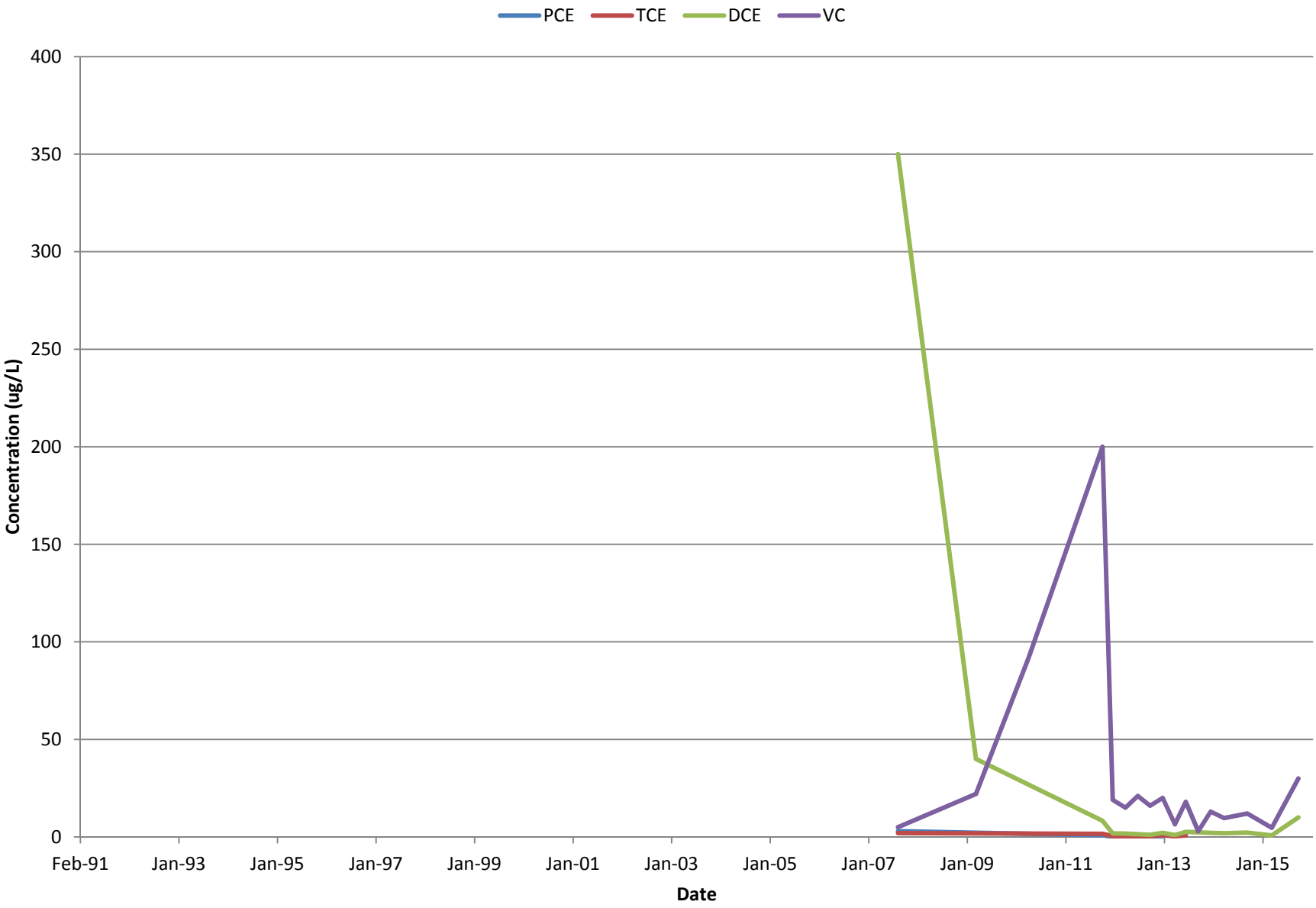
# Figure 5-6: MW-24/24R COC Trend Graph



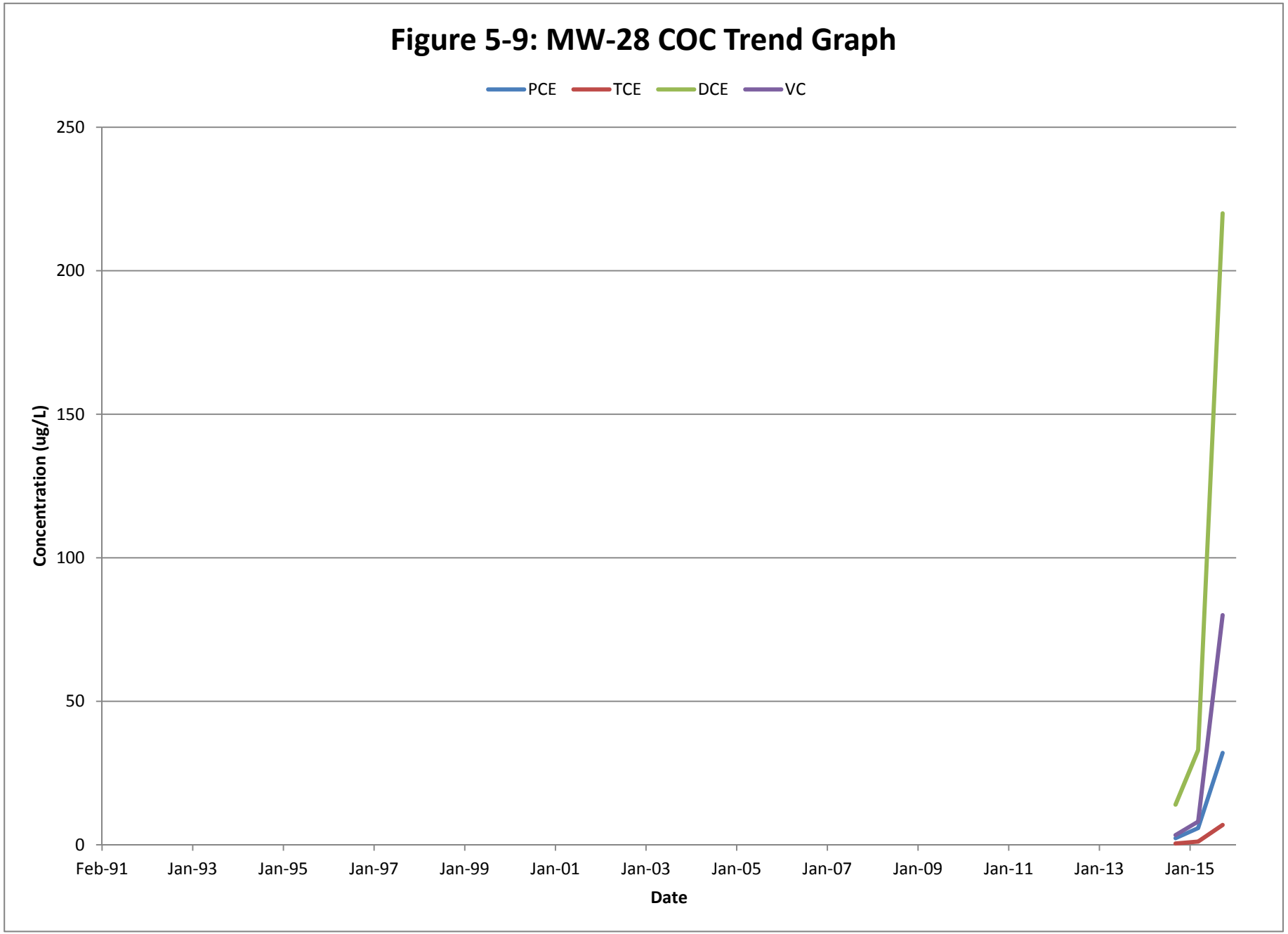
# Figure 5-7: MW-26/26R COC Trend Graph



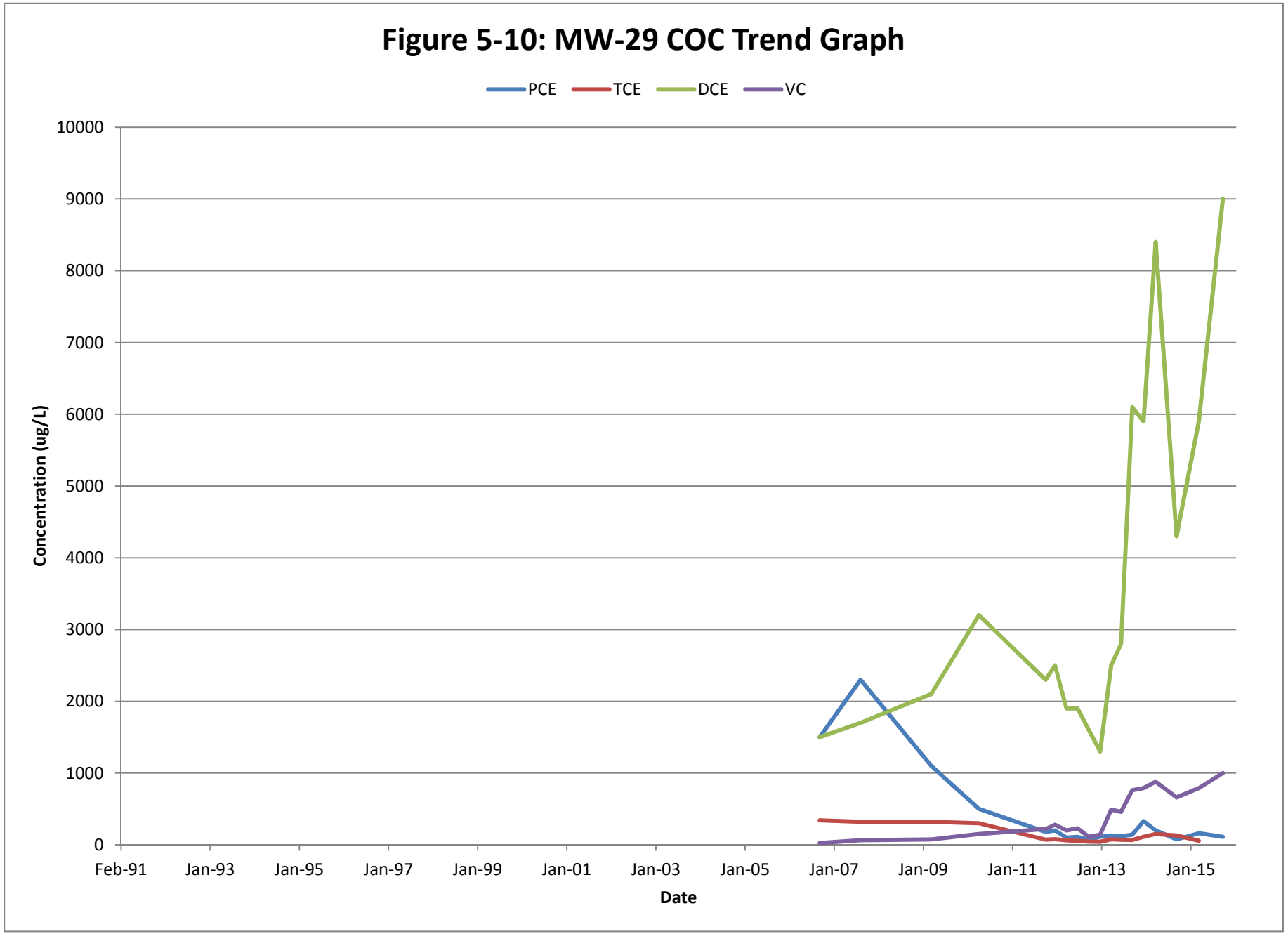
# Figure 5-8: MW-27 COC Trend Graph



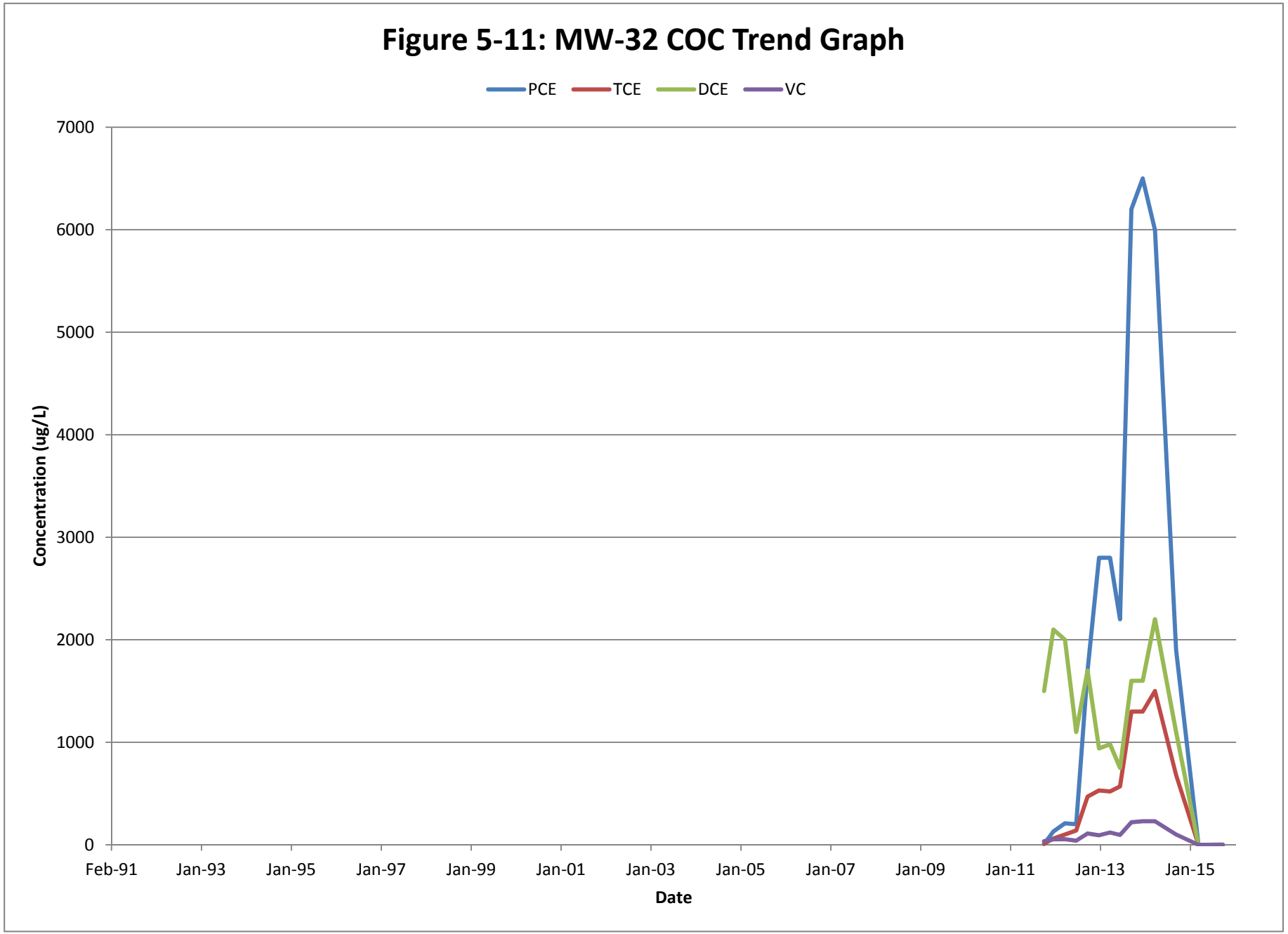
# Figure 5-9: MW-28 COC Trend Graph



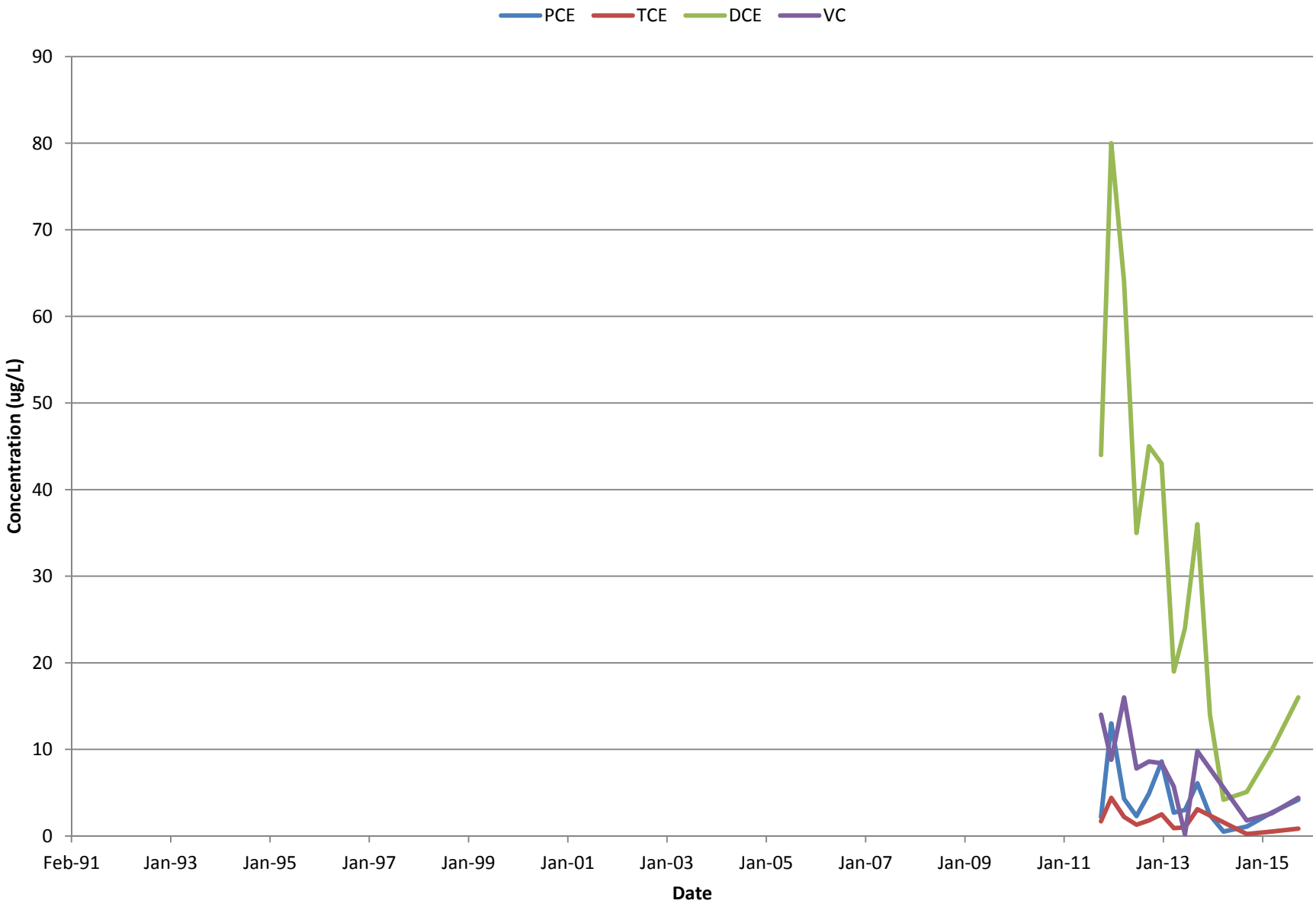
# Figure 5-10: MW-29 COC Trend Graph



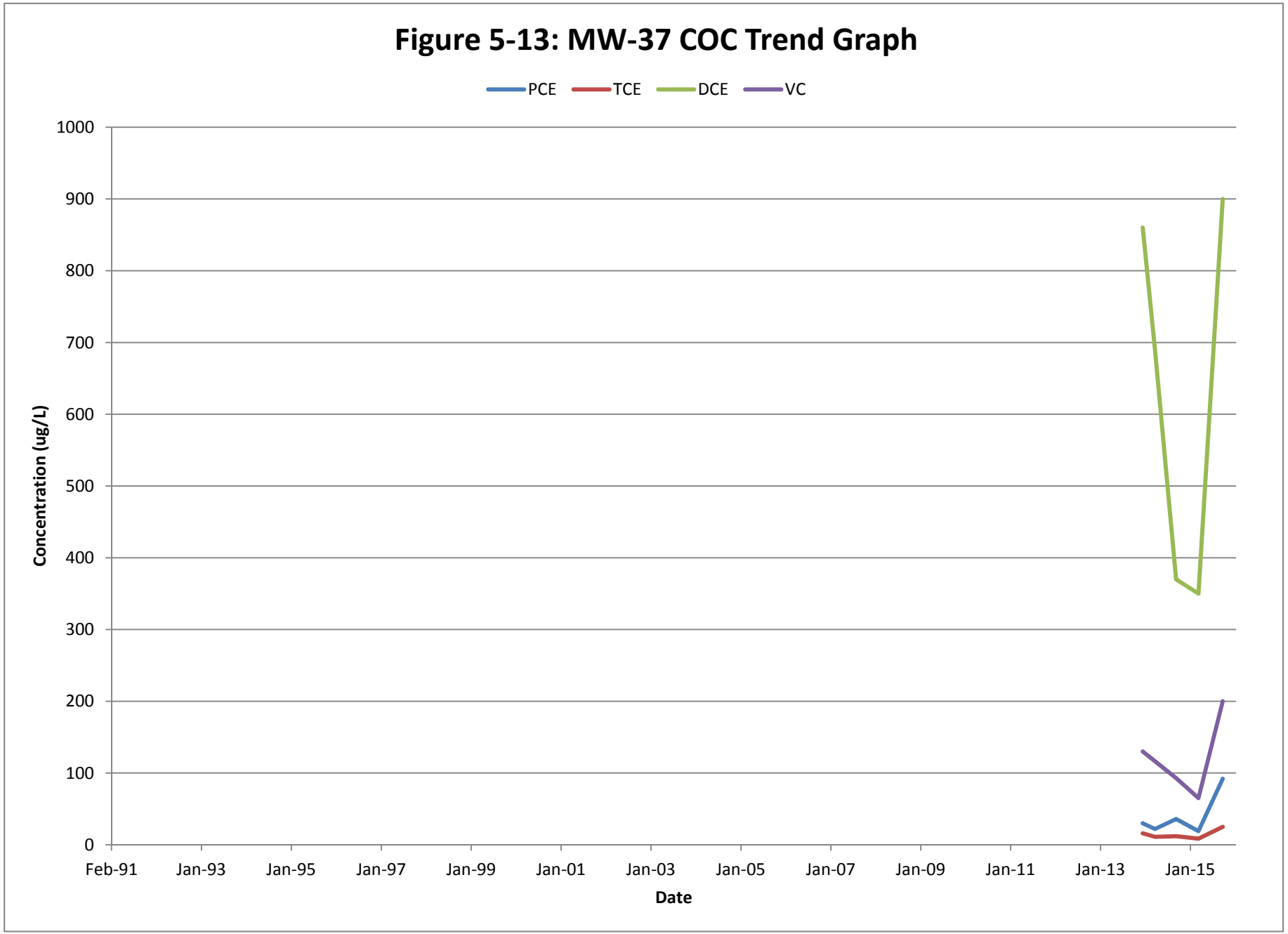
# Figure 5-11: MW-32 COC Trend Graph



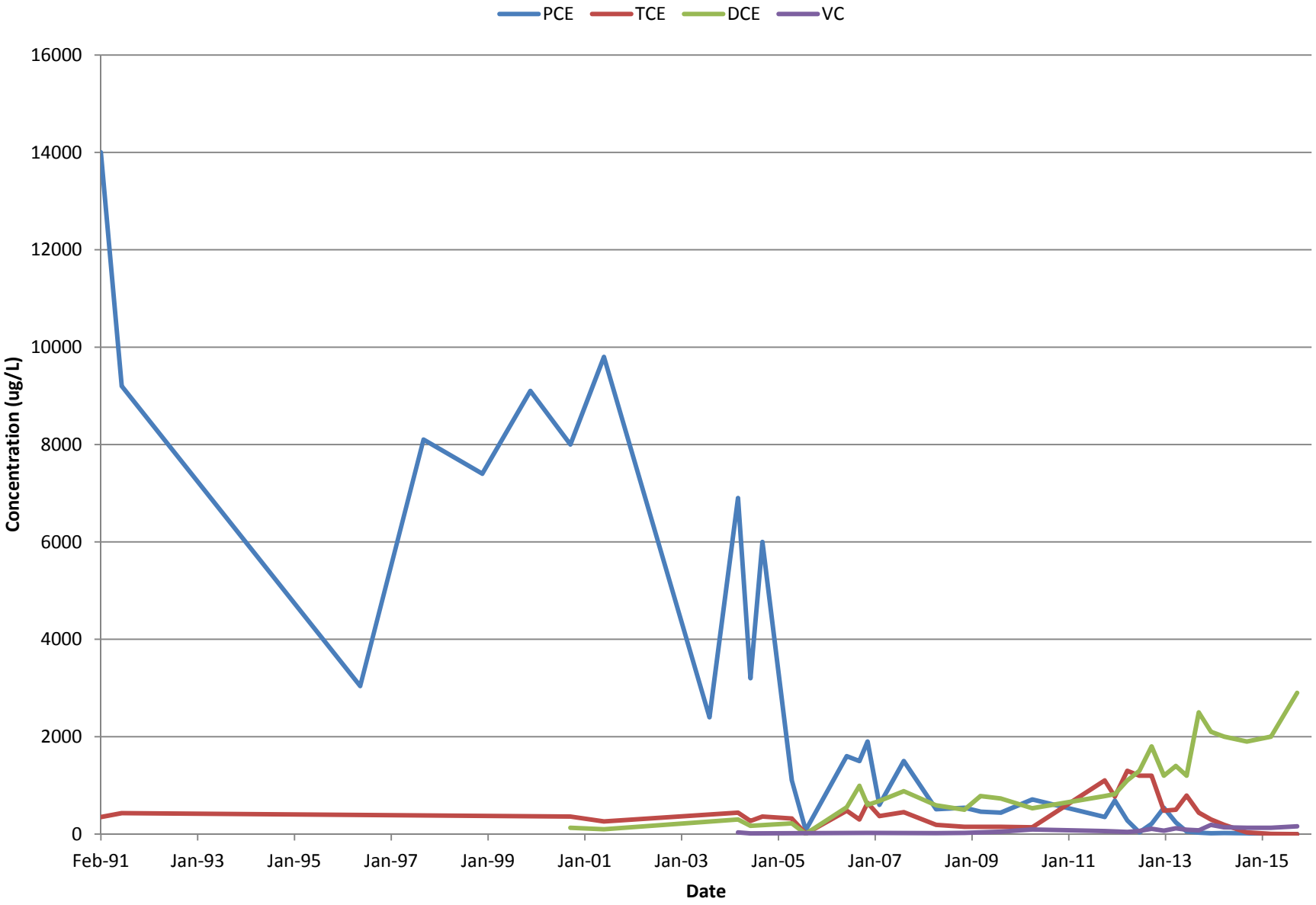
# Figure 5-12: MW-34 COC Trend Graph



# Figure 5-13: MW-37 COC Trend Graph



# Figure 5-14: PAN-MW-9 COC Trend Graph



VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# NINTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT A

## VOPAK SAVANNAH TERMINAL - 1942 SITE LAYOUT

# Attachment A: VOPAK Savannah Terminal - 1942 Site Layout

Existing Channel

1942 Topography

Existing Bulkhead Wall

SAVANNAH RIVER

TRANSIT SHED NO. 1

HART STREET

GREENE STREET

Brampton Rd.

SOUTHLAND OIL CORP. LEASE

TYPICAL SECTION HEADWALL AT HART STREET

DETAIL AROUND PIPE ELEVATION

HEADWALL @ TRACK #14

HEADWALL @ TRACK

KEY PLAN NOT TO SCALE

GEORGIA PORTS AUTHORITY
SAVANNAH PORT FACILITY
UTILITIES LAYOUT

00-45-007-031

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# NINTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT B

## SEPTEMBER/OCTOBER 2015 EIC WELL PURGING AND SAMPLING DATA FIELD LOGS

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: IW-1R

DATE: 10/01/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: cloudy, little wind towards BAF property, ~80°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 9.90 FT. to 19.90 FT.

INITIAL WATER LEVEL (BTOC): 2.77 FT. | TIME: 10:27 | BTOC WELL SCREEN INTERVAL: 8.90 FT. to 18.90 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 18.9 FT. | MEASURED TOTAL WELL DEPTH (BTOC ——— FT. | HEIGHT OF STICK-UP: -1 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 413 peak

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:42 | 0 | 26.55 | 4.14 | 165 | 0.459 | 85.1 | 1.56 | N/A | |
| 10:47 | 320 | 26.89 | 4.21 | 156 | 0.467 | 75.3 | 1.03 | N/A | |
| 10:52 | 600 | 26.71 | 4.17 | 155 | 0.470 | 66.0 | 0.82 | N/A | |
| 10:58 | 1020 | 26.46 | 4.17 | 153 | 0.474 | 56.0 | 0.48 | N/A | |
| 11:03 | 1240 | 26.33 | 4.19 | 151 | 0.476 | 57.0 | 0.53 | N/A | |
| 11:08 | 1520 | 26.28 | 4.20 | 148 | 0.480 | 35.8 | 0.48 | N/A | |
| 11:13 | 1740 | 26.22 | 4.20 | 148 | 0.481 | 28.4 | 0.45 | N/A | |
| 11:18 | 2000 | 26.17 | 4.22 | 146 | 0.484 | 31.0 | 0.43 | N/A | |
| 11:19 | — | — | — | — | — | — | — | 4.15 | |

COMMENTS:

SAMPLE COLLECTION TIME: 11:20

PREPARED BY: amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

10:43 began purging

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 14 |
| Final tubing depth (ft.) BTOC | 14 |
| Initial pump speed | 1.97 |
| Time pump speed was initialized | 10:32 |
| Pump speed at flow into cylinder | 1.97 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 11:18 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: IW-18

DATE: 10/01/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Raining little to no wind, ~80°F adg cloudy, little to no wind ~72°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 1.77 FT. | TIME: 18:30 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 19.3 FT. | MEASURED TOTAL WELL DEPTH (BTOC 19.28 FT. | HEIGHT OF STICK-UP: 0.33 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ~~0.0~~ NM adg BENEATH OUTER CAP: NM BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 18:32 | 0 | 23.24 | 5.32 | 86 | 0.848 | 316 | 1.89 | N/A | |
| 18:37 | 1100 | 24.92 | 5.35 | 69 | 0.869 | 298 | 1.23 | N/A | |
| 18:42 | 420 | 25.76 | 5.28 | 70 | 0.872 | 334 | 0.84 | N/A | |
| 18:47 | 1100 | 26.15 | 5.27 | 69 | 0.894 | 282 | 0.52 | N/A | |
| 18:52 | 1720 | 26.28 | 5.16 | 71 | 0.913 | 230 | 0.41 | N/A | |
| 18:57 | 2450 | 26.32 | 4.97 adg | 78 | 0.933 | 192 | 0.36 | N/A | |
| 19:02 | 3020 | 26.35 | ~~4.875~~ adg | 82 | 0.945 | 173 | 0.33 | N/A | pH=4.85 adg |
| 19:07 | 3700 | 26.26 | 4.85 | 82 | 0.953 | 148 | 0.31 | N/A | |
| 19:12 | 4220 | 26.29 | 4.84 | 83 | 0.962 | 132 | 0.33 | N/A | |
| 19:13 | | | | | | | | 3.58 | |

COMMENTS:

SAMPLE COLLECTION TIME: 19:14

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 14.5 |
| Final tubing depth (ft.) BTOC | 14.5 |
| Initial pump speed | 2.00 |
| Time pump speed was initialized | 18:25 |
| Pump speed at flow into cylinder | 2.00 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

@ 18:37 changed pump speed to 3.57

2,000 mL volume poured into bucket: 19:10 adg

| Time | 18:54 | ~~19:09~~ 19:10 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

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## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: LAW-PZ-8R

DATE: 10/01/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Raining, little to no wind, ~80°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 1.80 FT. to 11.80 FT.

INITIAL WATER LEVEL (BTOC): 1.65 FT. | TIME: 12:51 | BTOC WELL SCREEN INTERVAL: 1.32 FT. to 11.32 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 11.1 FT. | MEASURED TOTAL WELL DEPTH (BTO ____ FT. | HEIGHT OF STICK-UP: -0.476 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 769 peak

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:37 | 0 | 24.84 | 5.56 adj | 61 | 0.707 | 439 | 0.74 | N/A | |
| 13:42 | 400 | 24.91 | ~~5.60~~ 5.59 adj | 52 | 0.723 | 1000+ | 0.52 | N/A | pH=5.51 adj |
| 13:47 | 830 | 24.94 | ~~5.61~~ 5.60 adj | 45 | 0.743 | 1000+ | 0.44 | N/A | pH=5.51 adj |
| 13:52 | 1230 | 25.03 | ~~5.57~~ 5.56 adj | 38 | 0.778 | 900 | 0.37 | N/A | pH=5.51 adj |
| 13:57 | 1600 | 25.17 | 5.51 | 32 | 0.777 | 714 | 0.36 | N/A | |
| 14:02 | 2000 | 25.27 | 5.53 | 26 | 0.779 | 629 | 0.34 | N/A | |
| 14:07 | 2360 | 25.50 | 5.54 | 21 | 0.782 | 460 | 0.33 | N/A | |
| 14:12 | 2760 | 25.58 | 5.54 | 17 | 0.784 | 357 | 0.34 | N/A | |
| 14:17 | 3160 | 25.65 | 5.55 | 15 | 0.784 | 338 | 0.33 | N/A | |
| 14:22 | 3530 | 25.73 | 5.55 | 11 | 0.783 | 242 | 0.33 | N/A | |
| 14:27 | 3920 | 25.93 | 5.53 | 10 | 0.777 | 246 | 0.31 | N/A | |
| 14:32 | 4200 | 26.20 | 5.52 | 9 | 0.773 | 232 | 0.34 | N/A | |
| 14:33 | — | — | — | — | — | — | — | 2.17 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 14:34

PREPARED BY: Amelia Gross

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 6.8 |
| Final tubing depth (ft.) BTOC | 6.8 |
| Initial pump speed | 2.22 |
| Time pump speed was initialized | 13:08 34 adj |
| Pump speed at flow into cylinder | 2.22 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 14:02 | 14:31 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-14

DATE: 9/30/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: drying partly cloudy ~ 81°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

INITIAL WATER LEVEL (BTOC): 5.61 FT. TIME: 16:33 | BTOC WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): FT. | MEASURED TOTAL WELL DEPTH (BTOC 49.57 FT. | HEIGHT OF STICK-UP: 0 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:56 | 0 | 29.44 | 6.87 | 35 | 0.375 | 0.0 | ~~5.94~~ odg | 5.94 | DO = 2.61 mg/L odg |
| 17:01 | 250 | 28.92 | 7.31 | 6 | 0.386 | 0.0 | 1.38 | 6.05 | |
| 17:06 | 600 | 28.02 | 7.29 | 0 | 0.409 | 26.4 | 1.03 | 6.15 | |
| 17:11 | 900 | 27.58 | 7.35 | -6 | 0.434 | 31.3 | 0.83 | 6.21 | |
| 17:16 | 1220 | 27.27 | 7.34 | -8 | 0.451 | 32.2 | 0.80 | 6.24 | |
| 17:21 | 1580 | 27.00 | 7.34 | -11 | 0.457 | 29.5 | 0.74 | 6.27 | |
| 17:26 | 1830 | 26.57 | 7.34 | -13 | 0.460 | 22.9 | 0.70 | 6.29 | |
| 17:31 | 2150 | 26.59 | 7.33 | -16 | 0.463 | 20.0 | 0.67 | 6.31 | |
| 17:36 | 2430 | 26.44 | 7.36 | -20 | 0.463 | 19.7 | 0.64 | 6.32 | |

COMMENTS:

SAMPLE COLLECTION TIME: 17:38

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 47.0 |
| Initial tubing depth (ft.) BTOC | 44.5 |
| Final tubing depth (ft.) BTOC | 44.5 |
| Initial pump speed | 2.09 |
| Time pump speed was initialized | 16:47 |
| Pump speed at flow into cylinder | 2.09 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 17:28 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks:

# ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-16

DATE: 9/30/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny + partly cloudy ~78°F little to no wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 11.71 FT. | TIME: 15:04 | BTOC WELL SCREEN INTERVAL: 8.13 FT. to 18.13 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 13.98 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.02 FT. | HEIGHT OF STICK-UP: 3.18 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:36 | 0 | 30.53 | 5.91 | 145 | 0.395 | 143 | 1.25 | N/A | |
| 15:41 | 240 | 30.41 | 5.80 | 113 | 0.396 | 154 | 0.66 | N/A | |
| 15:46 | 500 | 30.06 | 5.79 | 96 | 0.399 | 176 | 0.60 | N/A | |
| 15:51 | 740 | 26.64 | 5.78 | 80 | 0.403 | 179 | 0.54 | N/A | |
| 15:56 | 1000 | 29.29 | 5.78 | 66 | 0.407 | 176 | 0.51 | N/A | |
| 16:01 | 1200 | 29.06 | 5.76 | 59 | 0.409 | 175 | 0.51 | N/A | |
| 16:02 | | | | | | | | 12.17 | |

COMMENTS:

SAMPLE COLLECTION TIME: 16:03

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12.9 adj |
| Final tubing depth (ft.) BTOC | ~~12.9~~ 13.4 |
| Initial pump speed | 1.51 |
| Time pump speed was initialized | 15:09 adj |
| Pump speed at flow into cylinder | ~~1.51~~ 1.78 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

15:26 lowered tubing to 13.40 ft BTOC

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-17 R

DATE: 9/30/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: partly cloudy little to no wind ~73°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.60 FT. to 20.60 FT.

INITIAL WATER LEVEL (BTOC): 10.79 FT. | TIME: 9:13 | BTOC WELL SCREEN INTERVAL: 9.12 FT. to 24.12 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.99 FT. | MEASURED TOTAL WELL DEPTH (BTOC 23.96 FT. | HEIGHT OF STICK-UP: 3.52 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:29 | 0 | 26.68 | 6.21 | 11 | 0.362 | 36.5 | 1.84 | N/A | |
| 9:34 | 340 | 27.26 | 6.02 | 15 | 0.358 | 34.5 | 0.97 | N/A | |
| 9:39 | 700 | 27.38 | 6.02 | 10 | 0.357 | 43.4 | 0.70 | N/A | |
| 9:44 | 1020 | ~~27.50~~ | 5.89 | 13 | 0.360 | 40.1 | 0.60 | N/A | Temp. = 27.50 |
| 9:49 | 1320 | 27.62 | 5.99 | 5 | 0.360 | 40.2 | 0.54 | N/A | |
| 9:55 | 1650 | 27.95 | 5.99 | 3 | 0.359 | 37.1 | 0.51 | N/A | |
| 10:01 | 2000 | 27.63 | ~~5.99~~ steady | 2 | 0.367 | 39.5 | 0.53 | N/A | pH= 5.94 |
| 10:04 | | | | | | | | 16.35 | |

COMMENTS:

SAMPLE COLLECTION TIME: 10:03

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 25 |
| Initial tubing depth (ft.) BTOC | 17.5 |
| Final tubing depth (ft.) BTOC | 17.5 |
| Initial pump speed | 2.01 |
| Time pump speed was initialized | 9:20 |
| Pump speed at flow into cylinder | 2.01 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-18R

DATE: 9/29/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: slightly drizzling ~70°F little to no wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.05 FT. | TIME: 18:03 | BTOC WELL SCREEN INTERVAL: 6.66 FT. to 16.66 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.61 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.55 FT. | HEIGHT OF STICK-UP: 3.66 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 18:13 | 0 | 26.61 | 4.12 | 187 | 0.268 | 38.1 | 3.00 | N/A | |
| 18:18 | 430 | 26.60 | 4.16 | 186 | 0.264 | 35.3 | 2.08 | N/A | |
| 18:23 | 1160 | 26.58 | 4.21 | 184 | 0.262 | 28.9 | 1.62 | N/A | |
| 18:28 | 1700 | 26.56 | 4.24 | 184 | 0.261 | 24.4 | 1.33 | N/A | |
| 18:33 | 2200 | 26.55 | 4.29 | 181 | 0.261 | 23.1 | 1.11 | N/A | |
| 18:38 | 2730 | 26.53 | 4.32 | 180 | 0.261 | 21.4 | 0.93 | N/A | |
| 18:43 | 3240 | 26.51 | 4.31 | 181 | 0.261 | 20.8 | 0.81 | N/A | |
| 18:48 | 3740 | 26.50 | 4.33 | 182 | 0.261 | 20.0 | 0.72 | N/A | |
| 18:54 | 4490 | 26.48 | 4.34 | 190 | 0.261 | 18.1 | 0.68 | N/A | pH=4.37 |
| 18:59 | 5030 | 26.48 | 4.34 | 182 | 0.261 | 17.5 | 0.48 | N/A | |
| 19:00 | | | | | | | | 6.15 | PTW=6.15 |
| | | | | | | | | adj | |

COMMENTS:

SAMPLE COLLECTION TIME: 19:01

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.0 |
| Initial tubing depth (ft.) BTOC | 11.5 |
| Final tubing depth (ft.) BTOC | 11.5 |
| Initial pump speed | 2.94 |
| Time pump speed was initialized | 18:08 |
| Pump speed at flow into cylinder | 2.94 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 18:31 | 18:49 | | | | | | |
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks: Sampled due to terminal work permit time constraints

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-19

DATE: 9/28/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Partly cloudy ~78°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.38 FT. to 13.38 FT.

INITIAL WATER LEVEL (BTOC): 6.89 FT. | TIME: 15:31 | BTOC WELL SCREEN INTERVAL: 7.58 FT. to 17.58 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 17.97 FT. | MEASURED TOTAL WELL DEPTH (BTOC 17.96 FT. | HEIGHT OF STICK-UP: 4.2 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:39 | 0 | 32.08 | 6.62 | 113 | 0.951 | 0.5 | 2.55 | N/A | |
| 15:44 | 780 | 30.60 | 6.39 | 97 | 0.976 | 0.0 | 1.42 | N/A | |
| 15:49 | 1440 | 30.13 | 6.36 | 77 | 0.965 | 7.7 | 0.77 | N/A | |
| 15:54 | 2050 | 29.66 | 6.29 | 67 | 0.935 | 23.3 | 1.40 | N/A | |
| 15:59 | 2720 | 29.44 | 6.29 | 59 | 0.913 | 24.4 | 1.05 | N/A | |
| 16:04 | 3440 | 29.30 | 6.27 | 55 | 0.895 | 20.1 | 1.11 | N/A | |
| 16:09 | 4000 | 29.30 | 6.27 | 53 | 0.881 | 10.8 | 0.95 | N/A | |
| 16:14 | 4720 | 29.65 | 6.25 | 51 | 0.861 | 1.5 | 0.94 | N/A | |
| 16:19 | 5340 | 29.62 | 6.23 | 51 | 0.843 | 0.0 | 0.76 | N/A | |
| 16:24 | 6000 | 29.53 | 6.21 | 51 | 0.837 | 0.0 | 0.67 | N/A | |
| 16:29 | 6820 | 29.39 | 6.21 | 50 | 0.827 | 0.0 | 0.66 | N/A | |
| 16:32 | | | | | | | | 6.95 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 16:33

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12.5 |
| Final tubing depth (ft.) BTOC | 12.5 |
| Initial pump speed | 3.54 |
| Time pump speed was initialized | 15:36 |
| Pump speed at flow into cylinder | 3.54 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 15:53 | 16:09 | 16:24 | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | 6000 | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-23

DATE: 9/28/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: sunny ~78°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.15 FT. to 11.15 FT.

INITIAL WATER LEVEL (BTOC): 3.44 FT. | TIME: 13:45 | BTOC WELL SCREEN INTERVAL: 5.90 FT. to 10.90 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 11.72 FT. | MEASURED TOTAL WELL DEPTH (BTOC 11.68 FT. | HEIGHT OF STICK-UP: 0.25 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:56 | 0 | 28.62 | 6.48 | 92 | 0.792 | 2.3 | 2.50 | N/A | |
| 14:01 | 480 | 28.38 | 6.43 | 87 | 0.797 | 3.0 | 1.28 | N/A | |
| 14:06 | 940 | 28.48 | 6.44 | 83 | 0.796 | 0.2 | 0.89 | N/A | |
| 14:11 | 1340 | 28.78 | 6.46 | 81 | 0.791 | 83.4 | 0.74 | N/A | |
| 14:16 | 1730 | 28.92 | 6.51 | 78 | 0.775 | 54.5 | 0.67 | N/A | |
| 14:21 | 2100 | 28.69 | 6.56 | 77 | 0.788 | 31.8 | 0.64 | N/A | |
| 14:26 | 2680 | 28.70 | 6.57 | 76 | 0.768 | 21.8 | 0.61 | N/A | |
| 14:31 | 3100 | 28.85 | 6.57 | 76 | 0.766 | 14.9 | 0.61 | N/A | |
| 14:36 | 3580 | 29.03 | 6.58 | 76 | 0.760 | 10.5 | 0.59 | N/A | |
| 14:41 | 3950 | 28.95 | 6.58 | 77 | 0.750 | 0.0 | 0.58 | N/A | |
| 14:42 | — | — | — | — | — | — | — | 4.90 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 14:43

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | ~~25~~ 20 |
| Initial tubing depth (ft.) BTOC | 8.5 |
| Final tubing depth (ft.) BTOC | 8.5 |
| Initial pump speed | 2.53 |
| Time pump speed was initialized | 13:50 |
| Pump speed at flow into cylinder | 2.53 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 14:20 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2200 | | | | | | | |

Additional remarks:

# ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-24 R

DATE: 10/01/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Cloudy, little to no wind, ~72°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 5.09 FT. | TIME: 15:17 | BTOC WELL SCREEN INTERVAL: 8.68 FT. to 18.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 18.15 FT. | MEASURED TOTAL WELL DEPTH (BTOC 18.4 FT. | HEIGHT OF STICK-UP: 3.73 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:31 | 0 | 24.51 | 4.47 | 125 | 0.514 | 11.7 | 2.71 | N/A | |
| 15:36 | 300 | 24.08 | 4.46 | 124 | 0.524 | 9.8 | 1.45 | N/A | |
| 15:41 | 620 | 24.04 | 4.48 | 123 | 0.522 | 12.7 | 1.10 | N/A | |
| 15:46 | 1000 | 24.03 | 4.50 | 120 | 0.511 | 18.7 | 0.71 | N/A | |
| 15:51 | 1420 | 23.97 | 4.46 | 123 | 0.488 | 24.5 | 0.56 | N/A | |
| 15:56 | 1770 | 23.88 | 4.53 | 117 | 0.468 | 25.5 | 0.50 | N/A | |
| 16:01 | 2050 | 23.73 | 4.59 | 113 | 0.458 | 25.2 | 0.48 | N/A | |
| 16:06 | 2400 | 23.65 | 4.60 | 111 | 0.451 | 23.9 | 0.46 | N/A | |
| 16:07 | | | | | | | | 7.11 | |

COMMENTS:

SAMPLE COLLECTION TIME: 16:08

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 13.5 |
| Final tubing depth (ft.) BTOC | 13.5 |
| Initial pump speed | 2.14 |
| Time pump speed was initialized | 15:29 |
| Pump speed at flow into cylinder | 2.14 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 16:00 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-25

DATE: 9/28/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: cloudy 68°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.40 FT. to 16.40 FT.

INITIAL WATER LEVEL (BTOC): 6.74 FT. | TIME: 17:16 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 17.93 FT. | MEASURED TOTAL WELL DEPTH (BTOC 17.91 FT. | HEIGHT OF STICK-UP: 3.27 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:26 | 0 | 29.46 | 5.79 | 74 | 0.568 | 72.6 | 1.80 | N/A | |
| 17:31 | 880 | 29.20 | 5.76 | 44 | 0.710 | 64.3 | 0.66 | N/A | |
| 17:37 | 1680 | 28.97 | 5.86 | 21 | 0.760 | 65.6 | 0.48 | N/A | |
| 17:42 | 2200 | 28.82 | 5.85 | 8 | 0.782 | 63.9 | 0.44 | N/A | |
| 17:47 | 2820 | 28.67 | 5.93 | -7 | 0.805 | 63.2 | 0.40 | N/A | |
| 17:52 | 3400 | 28.55 | 5.95 | -15 | 0.812 | 61.7 | 0.38 | N/A | |
| 17:57 | 4020 | 28.42 | 5.96 | -21 | 0.818 | 59.4 | 0.35 | N/A | 4020 mL = Vol |
| 18:02 | 4440 | 28.31 | 5.96 | -25 | 0.830 | 58.2 | 0.34 | N/A | |
| 18:03 | — | — | — | — | — | — | — | 6.85 | |

COMMENTS:

SAMPLE COLLECTION TIME: 18:04

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 14.5 |
| Final tubing depth (ft.) BTOC | 14.5 |
| Initial pump speed | 3.42 |
| Time pump speed was initialized | 17:21 |
| Pump speed at flow into cylinder | 3.42 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 17:42 | 17:58 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2200 | 2000 | | | | | | |

Additional remarks: _____

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-26R

DATE: 10/01/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: cloudy, little to no wind, ~85°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.10 FT. to 15.10 FT.

INITIAL WATER LEVEL (BTOC): 2.72 FT. | TIME: 8:53 | BTOC WELL SCREEN INTERVAL: 4.80 FT. to 14.80 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.51 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.51 FT. | HEIGHT OF STICK-UP: 0.3 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:03 | 0 | 23.69 | 5.80 | 163 | 0.318 | 91.1 | 1.92 | N/A | |
| 9:08 | 440 | 24.88 | 5.43 | 148 | 0.308 | 88.1 | 1.29 | N/A | |
| 9:13 | 920 | 25.49 | 5.56 | 132 | 0.290 | 99.1 | 0.93 | N/A | |
| 9:18 | 1400 | 25.73 | 5.55 | 125 | 0.276 | 67.0 | 0.76 | N/A | |
| 9:23 | 1780 | 25.92 | 5.57 | 118 | 0.271 | 79.8 | 0.69 | N/A | |
| 9:28 | 2120 | 26.13 | 5.57 | 112 | 0.271 | 88.5 | 0.62 | N/A | |
| 9:33 | 2550 | 26.24 | 5.57 | 104 | 0.271 | 68.6 | 0.56 | N/A | |
| 9:38 | 3000 | 26.34 | 5.58 | 97 | 0.272 | 54.4 | 0.55 | N/A | |
| 9:43 | 3400 | 26.36 | 5.57 | 92 | 0.273 | 45.3 | 0.51 | N/A | |
| 9:48 | 3900 | 26.47 | 5.59 | 84 | 0.276 | 39.2 | 0.47 | N/A | |
| 9:53 | 4300 | 26.65 | 5.59 | 78 | 0.275 | 37.7 | 0.44 | N/A | |
| 9:58 | 4770 | 26.70 | 5.59 | 75 | 0.275 | 32.7 | 0.40 | N/A | |
| 10:03 | 5200 | 26.76 | 5.59 | 72 | 0.275 | 30.4 | 0.39 | N/A | |
| 10:04 | — | — | — | — | — | — | — | 3.15 | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 10:05

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 21 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 2.50 |
| Time pump speed was initialized | 8:57 |
| Pump speed at flow into cylinder | 2.50 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 9:27 | 9:49 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-27

DATE: 9/28/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 7.79 FT. to 17.79 FT.

INITIAL WATER LEVEL (BTOC): 4.21 FT. | TIME: 10:14 | BTOC WELL SCREEN INTERVAL: 7.52 FT. to 17.52 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 13.85 FT. | MEASURED TOTAL WELL DEPTH (BTOC 13.84 FT. | HEIGHT OF STICK-UP: -0.27 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:35 | 0 | 23.08 | 6.60 | 203 | 0.444 | 51.4 | 1.43 | N/A | |
| 10:40 | 220 | 23.98 | 6.22 | 241 | 0.428 | 47.3 | 1.28 | N/A | |
| 10:45 | 460 | 24.34 | 6.20 | 216 | 0.417 | 48.0 | 1.15 | N/A | |
| 10:50 | 760 | 24.72 | 6.21 | 215 | 0.415 | 69.8 | 1.04 | N/A | tan bacteria starting to build |
| 11:14 | 820 | 25.13 | 6.31 | 199 | 0.436 | 12.2 | 1.92 | N/A | |
| 11:19 | 1360 | 25.52 | 6.17 | 192 | 0.437 | 11.7 | 1.04 | N/A | |
| 11:24 | 1420 | 25.77 | 6.18 | 184 | 0.435 | 8.2 | 0.67 | N/A | |
| 11:29 | 1740 | 25.94 | 6.17 | 127 | 0.437 | 4.4 | 0.60 | N/A | ody |
| 11:30 | — | — | — | — | — | — | — | 4.32 | DTW = 6.32 ody |
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COMMENTS:

SAMPLE COLLECTION TIME: 11:31

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12.50 |
| Final tubing depth (ft.) BTOC | 12.50 |
| Initial pump speed | 1.59 |
| Time pump speed was initialized | 10:25 |
| Pump speed at flow into cylinder | 1.59 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

10:52 stopped pump to clean Horiba flow through cell.
10:57 restart pump.
11:08 gasket did not seal properly on flow through cell drained horiba fitted gasket + continued purging
11:08 changed pump speed to 2.08

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: tan bacteria at first pull of GW

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-28

DATE: 9/29/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Cloudy ~69°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.71 FT. to 13.71 FT.

INITIAL WATER LEVEL (BTOC): 4.79 FT. | TIME: 10:31 | BTOC WELL SCREEN INTERVAL: FT. to FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.0 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.05 FT. | HEIGHT OF STICK-UP: -0.125 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:45 | 0 | 26.17 | 6.07 | 81 | 0.297 | 24.1 | 1.38 | N/A | |
| ~~10:52~~ | 460 | 26.45 | 6.18 | 65 | 0.295 | 22.5 | 1.14 | N/A | time=10:52 |
| 10:57 | 800 | 26.58 | 6.15 | 68 | 0.298 | 16.7 | 1.11 | N/A | |
| 11:02 | 1140 | 26.77 | 6.13 | 70 | 0.300 | 15.0 | 1.00 | N/A | |
| 11:07 | 1500 | 26.94 | 6.08 | 74 | 0.301 | 11.4 | 0.90 | N/A | |
| 11:12 | 1800 | 27.05 | 6.03 | 78 | 0.302 | 10.8 | 0.84 | N/A | |
| 11:17 | 2100 | 27.17 | 6.01 | 81 | 0.306 | 8.6 | 0.75 | N/A | |
| 11:19 | | | | | | | | 7.05 | |

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COMMENTS:

SAMPLE COLLECTION TIME: 11:21

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | ~~32~~ 9 ody |
| Final tubing depth (ft.) BTOC | 9 |
| Initial pump speed | 2.09 |
| Time pump speed was initialized | 10:37 |
| Pump speed at flow into cylinder | 2.09 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 11:15 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Red bacteria in first pull of water from well

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-29

DATE: 10/01/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: cloudy, medium wind coming off river, ~70°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [ ] 2 [ ] 4 [ ] 6 [X] OTHER (3/4") | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 5.58 FT. | TIME: 16:15 | BTOC WELL SCREEN INTERVAL: 13.55 FT. to 23.55 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.26 FT. | MEASURED TOTAL WELL DEPTH (BTOC 23.15 FT. | HEIGHT OF STICK-UP: 3.55 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: N/A | BENEATH OUTER CAP: N/A | BENEATH INNER CAP: N/A

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:42 | 50 | 23.25 | 4.53 | 101 | 1.04 | 62.9 | 1.72 | N/A | |
| 16:48 | 600 | 23.09 | 4.59 | 95 | 1.07 | 57.6 | 0.86 | N/A | |
| 16:53 | 910 | 23.09 | 4.57 | 96 | 1.10 | 57.2 | 0.72 | N/A | |
| 16:58 | 1230 | 22.99 | 4.62 | 94 | 1.14 | 59.2 | 0.61 | N/A | |
| 17:03 | 1600 | 22.96 | 4.64 | 93 | 1.20 | 56.5 | 0.53 | N/A | |
| 17:10 | 2000 | 22.80 | 4.65 | 99 | 1.26 | 56.2 | 0.49 | N/A | pH=4.65 adg |
| 17:15 | 2320 | 22.83 | 4.63 | 93 | 1.27 | 56.1 | 0.48 | N/A | |
| 17:20 | 2690 | 22.77 | 4.64 | 91 | 1.29 | 55.4 | 0.35 | N/A | |
| 17:21 | — | — | — | — | — | — | — | 9.69 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 17:22

PREPARED BY: amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | ~~N/A~~ 24 adg |
| Initial tubing depth (ft.) BTOC | 18.5 |
| Final tubing depth (ft.) BTOC | 18.5 |
| Initial pump speed | ~~1.57~~ 2.08 adg |
| Time pump speed was initialized | 16:23 |
| Pump speed at flow into cylinder | ~~1.57~~ 2.08 adg |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 1710 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: gauged DTB = 23.29

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-30

DATE: 9/29/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Cloudy ~72°F little to no wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.25 FT. to 15.25 FT.

INITIAL WATER LEVEL (BTOC): 4.78 FT. | TIME: 17:06 | BTOC WELL SCREEN INTERVAL: 4.97 FT. to 14.97 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.07 FT. | MEASURED TOTAL WELL DEPTH (BTOC 15.05 FT. | HEIGHT OF STICK-UP: 0.28 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:16 | 0 | 26.24 | 4.63 | 135 | 0.284 | 22.7 | 1.41 | 4.87 | |
| 17:21 | 820 | 26.45 | 4.53 | 135 | 0.286 | 13.7 | 0.87 | 4.88 | |
| 17:26 | 1480 | 26.51 | 4.48 | 134 | 0.288 | 7.5 | 0.64 | 4.88 | |
| 17:31 | 2050 | 26.58 | 4.52 | 129 | 0.285 | 4.3 | 0.59 | 4.88 | |
| 17:36 | 2850 | 26.67 | 4.49 | 129 | 0.283 | 2.2 | 0.52 | 4.88 | |
| 17:43 | 3840 | 26.68 | 4.45 odg | 134 | 0.281 | 0.5 | 0.46 | 4.88 | pH = 4.45 odg |
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COMMENTS:

SAMPLE COLLECTION TIME: 17:45

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 3.48 |
| Time pump speed was initialized | 17:12 |
| Pump speed at flow into cylinder | 3.48 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 17:30 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-31

DATE: 9/28/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: cloudy ~78°F little to no wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 10.50 FT. to 20.50 FT.

INITIAL WATER LEVEL (BTOC): 4.59 FT. | TIME: 13:01 | BTOC WELL SCREEN INTERVAL: 10.08 FT. to 20.08 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 20.48 FT. | MEASURED TOTAL WELL DEPTH (BTOC) ~~~~ FT. | HEIGHT OF STICK-UP: 0.42 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: N/M BENEATH OUTER CAP: N/M BENEATH INNER CAP: N/M

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:09 | 0 | 27.02 | 6.50 | 141 | 0.802 | 2.4 | 2.54 | 4.71 | |
| 13:14 | 700 | 26.04 | 6.52 | 128 | 0.837 | 0.9 | 0.91 | 4.72 | |
| 13:19 | 1420 | 25.57 | 6.51 | 118 | 0.844 | 0.0 | 0.69 | 4.73 | |
| 13:24 | 2000 | 25.40 | 6.52 | 107 | 0.846 | 0.0 | 0.59 | 4.73 | |
| 13:29 | 2670 | 25.34 | 6.51 | 98 | 0.846 | 0.0 | 0.53 | 4.73 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 13:31

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 15 |
| Final tubing depth (ft.) BTOC | 15 |
| Initial pump speed | 3.46 |
| Time pump speed was initialized | 13:05 |
| Pump speed at flow into cylinder | 3.46 |
| Started new roll of tubing at | ~~~~ |
| Three well volume (mL) | ~~~~ |

2,000 mL volume poured into bucket:

| Time | 13:24 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: first pull of water in tubing is clear

## ENVIRONMENTAL INTERNATIONAL CORPORATION
## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-32

DATE: 9/30/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: partly cloudy little to no wind ~74°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT.

INITIAL WATER LEVEL (BTOC): 5.94 FT. | TIME: 10:19 | BTOC WELL SCREEN INTERVAL: 6.08 FT. to 16.08 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.43 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.41 FT. | HEIGHT OF STICK-UP: 0.42 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:29 | 0 | 29.92 | 6.63 | -11 | 0.989 | 0.0 | 2.22 | 6.14 | |
| 10:35 | 620 | 29.86 | 6.78 | -19 | 0.962 | 0.0 | 1.92 | 6.27 | |
| 10:40 | 1140 | 30.00 | 6.78 | -17 | 0.965 | 0.0 | 1.76 | 6.31 | |
| 10:45 | 1620 | 30.03 | 6.78 | -16 | 0.965 | 0.0 | 1.54 | 6.19 | |
| 10:50 | 2080 | 30.15 | 6.77 | -13 | 0.971 | 0.0 | 1.52 | 6.34 | |
| 10:55 | 2480 | 30.03 | 6.75 | -11 | 0.976 | 0.0 | 1.46 | 6.41 | |
| 11:00 | 2980 | 30.45 | 6.78 | -10 | 0.973 | 0.0 | 1.47 | 6.47 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 11:02

PREPARED BY: amelia Graft

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 2.74 |
| Time pump speed was initialized | 10:24 |
| Pump speed at flow into cylinder | 2.74 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 10:49 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-33

DATE: 10/01/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: cloudy, slight wind from off river ~70°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

INITIAL WATER LEVEL (BTOC): 2.09 FT. | TIME: 1642 | BTOC WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.42 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.35 FT. | HEIGHT OF STICK-UP: 0 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: NM | BENEATH OUTER CAP: NM | BENEATH INNER CAP: NM

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:48 | 0 | 23.39 | 5.29 | 81 | 0.395 | 34.5 | 1.58 | 2.16 | water in cylinder has yellow tint |
| 17:53 | 750 | 23.88 | 5.27 | 73 | 0.402 | 30.3 | 0.62 | 2.19 | |
| 17:58 | 1380 | 23.92 | 5.27 | 70 | 0.416 | 30.4 | 0.43 | 2.21 | |
| 18:03 | 2000 | 24.01 | 5.30 | 66 | 0.416 | 25.3 | 0.36 | 2.21 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 18:05

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 3.43 |
| Time pump speed was initialized | 17:33 |
| Pump speed at flow into cylinder | 3.43 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 18:03 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-34

DATE: 9/29/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: cloudy ~72°F Dlite to no wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT.

INITIAL WATER LEVEL (BTOC): 3.42 FT. | TIME: 11:32 | BTOC WELL SCREEN INTERVAL: 6.02 FT. to 16.02 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.34 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.34 FT. | HEIGHT OF STICK-UP: 0.48 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 11:43 | 0 | 27.78 | 4.49 | 173 | 0.145 | 9.2 | 1.13 | 3.45 | |
| 11:48 | 610 | 27.28 | 4.37 | 189 | 0.147 | 0.0 | 0.71 | 3.45 | |
| 11:53 | 1320 | 27.10 | 4.39 | 188 | 0.144 | 0.0 | 0.57 | 3.45 | |
| 11:58 | 1840 | 27.12 | 4.36 | 192 | 0.144 | 0.0 | 0.52 | 3.45 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 12:00

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant. Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 3.03 |
| Time pump speed was initialized | 11:38 |
| Pump speed at flow into cylinder | 3.03 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-35

DATE: 9/29/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Raining ~74°F, slight wind towards SE

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.63 FT. to 15.63 FT.

INITIAL WATER LEVEL (BTOC): 5.53 FT. | TIME: 13:57 | BTOC WELL SCREEN INTERVAL: 5.32 FT. to 15.32 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.32 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -0.31 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.6 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 14:08 | 0 | 27.00 | 6.36 | 125 | 1.73 | 608 | 0.89 | 5.55 | |
| 14:13 | 520 | 26.66 | 6.56 | 26 | 1.62 | 430 | 0.54 | 5.55 | |
| 14:18 | 1040 | 26.41 | 6.60 | -26 | 1.44 | 118 | 0.50 | 5.55 | |
| 14:23 | 1680 | 26.32 | 6.63 | -51 | 1.30 | 16.8 | 0.43 | 5.55 | |
| 14:28 | 2150 | 26.29 | 6.66 | -62 | 1.22 | 14.9 | 0.41 | 5.55 | |
| 14:33 | 2600 | 26.28 | 6.67 | -70 | 1.09 | 1.5 | 0.39 | 5.55 | |
| 14:38 | 3010 | 26.36 | 6.68 | -76 | 1.01 | 0.9 | 0.37 | 5.55 | |
| 14:43 | 3680 | 26.38 | 6.69 | -80 | 0.927 | 3.4 | 0.35 | 5.55 | |
| 14:48 | 4130 | 26.42 | 6.70 | -86 | 0.878 | 0.0 | 0.33 | 5.55 | |
| 14:53 | 4680 | 26.42 | 6.71 | -88 | 0.846 | 0.0 | 0.32 | 5.55 | |
| 14:58 | 5100 | 26.43 | 6.71 | -90 | 0.809 | 0.0 | 0.32 | 5.55 | |
| 15:03 | 5620 | 26.40 | 6.72 | -92 | 0.786 | 0.2 | 0.33 | 5.55 | |
| 15:08 | 6200 | 26.39 | 6.73 | -95 | 0.769 | 2.7 | 0.33 | 5.55 | |
| 15:13 | 6660 | 26.41 | 6.72 | -96 | 0.743 | 0.0 | 0.33 | 5.55 | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 15:15

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 2.99 |
| Time pump speed was initialized | 14:03 |
| Pump speed at flow into cylinder | 2.99 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 14:27 | 14:47 | 15:08 | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | 6200 | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-36

DATE: 9/30/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: cloudy, little to no wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.55 FT. to 15.55 FT.

INITIAL WATER LEVEL (BTOC): 5.93 FT. | TIME: 8:13 | BTOC WELL SCREEN INTERVAL: 5.43 FT. to 15.43 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.425 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -0.125 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 8:23 | 0 | 22.35 | 6.21 | 167 | 1.21 | 44.9 | 4.18 | 6.18 | |
| 8:28 | 500 | 25.31 | 6.39 | 43 | 1.19 | 55.8 | 1.42 | 6.25 | |
| 8:33 | 1050 | 25.94 | 6.40 | -14 | 1.20 | 41.8 | 0.95 | 6.30 | |
| 8:38 | 1620 | 25.94 | 6.40 | -39 | 1.22 | 25.8 | 0.78 | 6.32 | |
| 8:43 | 2000 | 26.04 | 6.42 | -53 | 1.23 | 17.1 | 0.66 | 6.35 | |
| 8:48 | 2500 | 26.10 | 6.40 | -58 | 1.23 | 12.0 | 0.62 | 6.36 | |
| 8:53 | 3010 | 26.24 | 6.40 | -63 | 1.24 | 9.0 | 0.57 | 6.38 | |
| 8:58 | 3520 | 26.46 | 6.40 | -66 | 1.24 | 4.2 | 0.53 | 6.38 | |

COMMENTS:

SAMPLE COLLECTION TIME: 9:01

PREPARED BY: Amelia Zinn

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 3.04 |
| Time pump speed was initialized | 8:18 |
| Pump speed at flow into cylinder | 3.04 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 8:44 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-37

DATE: 9/28/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: OVC (Sct Light wind 83°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.15 FT. to 15.15 FT.

INITIAL WATER LEVEL (BTOC): 4.00 FT. | TIME: 9:17 | BTOC WELL SCREEN INTERVAL: 5.15 FT. to 15.15 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.15 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: 0 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:30 | 0 | 22.40 | 6.62 | 145 | 0.323 | 32.1 | 2.09 | 4.09 | |
| 9:35 | 880 | 23.51 | 5.62 | 110 | 0.307 | 47.2 | 1.06 | 4.10 | |
| 9:40 | 1640 | 23.73 | 5.60 | 104 | 0.304 | 29.0 | 0.81 | 4.10 | |
| 9:45 | 2540 | 24.07 | 5.54 | 105 | 0.301 | 13.5 | 0.69 | 4.10 | |
| 9:50 | 3280 | 24.15 | 5.50 | 107 | 0.298 | 9.3 | 0.62 | 4.10 | |
| 9:55 | 4000 | 24.22 | 5.43 | 111 | 0.296 | 16.5 | 0.57 | 4.10 | |
| 10:00 | 4860 | 24.33 | 5.34 | 116 | 0.296 | 6.1 | 0.53 | 4.10 | |
| 10:05 | 5770 | 24.40 | 5.28 | 119 | 0.297 | 6.3 | 0.49 | 4.10 | |
| 10:10 | 6520 | 24.48 | 5.24 | 123 | 0.298 | 2.5 | 0.48 | 4.10 | |
| 10:15 | 7180 | 24.57 | 5.18 | 125 | 0.294 | 0.0 | 0.45 | 4.10 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 10:17

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 3.99 |
| Time pump speed was initialized | 9:26 |
| Pump speed at flow into cylinder | 3.99 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| Time | 9:42 | 9:55 | 10:06 | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | 6000 | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: PAN-MW-9

DATE: 9/30/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Partly cloudy little to no wind ~78°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.09 FT. | TIME: 17:48 | BTOC WELL SCREEN INTERVAL: 6.25 FT. to 16.25 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.78 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.77 FT. | HEIGHT OF STICK-UP: 3.25 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 | BENEATH OUTER CAP: 0.0 | BENEATH INNER CAP: 22.2 peak

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, 9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 18:07 | 0 | 27.10 | 5.34 | 78 | 0.422 | 97.1 | 0.91 | 6.68 | |
| 18:12 | 290 | 26.93 | 5.37 | 64 | 0.428 | 82.3 | 0.80 | 6.72 | ~~Vol = 540 mL~~ |
| 18:17 | ~~540~~ | 26.91 | 5.35 | 57 | 0.428 | 78.5 | 0.64 | 6.85 | Vol = 540 mL |
| 18:22 | 780 | 26.71 | 5.24 | 58 | 0.431 | 79.7 | 0.62 | 6.92 | |
| 18:27 | 980 | 26.60 | 5.32 | 49 | 0.432 | 78.7 | 0.59 | 6.98 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 18:29

PREPARED BY: Amelia Grant

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20.75 |
| Initial tubing depth (ft.) BTOC | 10.5 |
| Final tubing depth (ft.) BTOC | 10.5 |
| Initial pump speed | 1.68 |
| Time pump speed was initialized | 17:53 |
| Pump speed at flow into cylinder | 1.68 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks:

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: PAN-MW-10

DATE: 9/30/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Sunny & partly cloudy ~75°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 8.13 FT. | TIME: 14:11 | BTOC WELL SCREEN INTERVAL: 6.68 FT. to 16.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.93 FT. | MEASURED TOTAL WELL DEPTH (BTOC 15.9 FT. | HEIGHT OF STICK-UP: 3.68 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0.0 BENEATH OUTER CAP: 0.0 BENEATH INNER CAP: 0.0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 14:21 | 0 | 29.40 | 4.62 | 102 | 0.548 | 133 | 3.11 | 8.23 | DTW = 8.23 |
| 14:26 | 860 | 28.73 | 6.16 | 127 | 0.558 | 28.5 | 2.32 | 8.27 | |
| 14:31 | 1540 | 28.41 | 6.15 | 128 | 0.563 | 21.4 | 2.16 | 8.27 | |
| 14:36 | 2220 | 28.23 | 6.13 | 129 | 0.565 | 13.0 | 1.94 | 8.27 | |
| 14:41 | 2920 | 28.18 | 6.14 | 129 | 0.565 | 6.8 | 1.83 | 8.27 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 14:43

PREPARED BY: Amelia Graff

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12.25 |
| Final tubing depth (ft.) BTOC | 12.25 |
| Initial pump speed | 3.45 |
| Time pump speed was initialized | 14:16 |
| Pump speed at flow into cylinder | 3.45 |
| Started new roll of tubing at | — |
| Three well volume (mL) | — |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 14:34 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# NINTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT C

## LAB ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES SEPTEMBER/OCTOBER 2015

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-117408-1
Client Project/Site: VOPAK Savannah Terminal/390020

For:
Environmental International Corporation
161 Kimball Bridge Road
Suite 100
Alpharetta, Georgia 30009

Attn: Amelia Grant

*Authorized for release by:*
*10/15/2015 12:10:45 PM*

Sheila Hoffman, Project Manager II
(912)354-7858 e.3004
sheila.hoffman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

# Sample Summary

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 680-117408-1 | IW-IR | Water | 10/01/15 11:20 | 10/02/15 15:10 |
| 680-117408-2 | IW-18 | Water | 10/01/15 19:14 | 10/02/15 15:10 |
| 680-117408-3 | LAW-PZ-8R | Water | 10/01/15 14:34 | 10/02/15 15:10 |
| 680-117408-4 | MW-14 | Water | 09/30/15 17:38 | 10/02/15 15:10 |
| 680-117408-5 | MW-16 | Water | 09/30/15 16:03 | 10/02/15 15:10 |
| 680-117408-6 | MW-17R | Water | 09/30/15 10:03 | 10/02/15 15:10 |
| 680-117408-7 | MW-18R | Water | 09/29/15 19:01 | 10/02/15 15:10 |
| 680-117408-8 | MW-19 | Water | 09/28/15 16:33 | 10/02/15 15:10 |
| 680-117408-9 | MW-23 | Water | 09/28/15 14:43 | 10/02/15 15:10 |
| 680-117408-10 | MW-24R | Water | 10/01/15 16:08 | 10/02/15 15:10 |
| 680-117408-11 | MW-25 | Water | 09/28/15 18:04 | 10/02/15 15:10 |
| 680-117408-12 | MW-26R | Water | 10/01/15 10:05 | 10/02/15 15:10 |
| 680-117408-13 | MW-27 | Water | 09/28/15 11:31 | 10/02/15 15:10 |
| 680-117408-14 | MW-28 | Water | 09/29/15 11:21 | 10/02/15 15:10 |
| 680-117408-15 | MW-29 | Water | 10/01/15 17:22 | 10/02/15 15:10 |
| 680-117408-16 | MW-30 | Water | 09/29/15 17:45 | 10/02/15 15:10 |
| 680-117408-17 | MW-31 | Water | 09/28/15 13:31 | 10/02/15 15:10 |
| 680-117408-18 | MW-32 | Water | 09/30/15 11:02 | 10/02/15 15:10 |
| 680-117408-19 | MW-33 | Water | 10/01/15 18:05 | 10/02/15 15:10 |
| 680-117408-20 | MW-34 | Water | 09/29/15 12:00 | 10/02/15 15:10 |
| 680-117408-21 | MW-35 | Water | 09/29/15 15:15 | 10/02/15 15:10 |
| 680-117408-22 | MW-36 | Water | 09/30/15 09:01 | 10/02/15 15:10 |
| 680-117408-23 | MW-37 | Water | 09/28/15 10:17 | 10/02/15 15:10 |
| 680-117408-24 | PAN-MW-9 | Water | 09/30/15 18:29 | 10/02/15 15:10 |
| 680-117408-25 | PAN-MW-10 | Water | 09/30/15 14:43 | 10/02/15 15:10 |
| 680-117408-26 | Trip Blank | Water | 09/28/15 00:00 | 10/02/15 15:10 |

# Method Summary

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL SAV |

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

# Definitions/Glossary

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| * | LCS or LCSD is outside acceptance limits. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative error ratio |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

## Job ID: 680-117408-1

**Laboratory: TestAmerica Savannah**

**Narrative**

# CASE NARRATIVE

## Client: Environmental International Corporation

## Project: VOPAK Savannah Terminal/390020

## Report Number: 680-117408-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

**RECEIPT**

The samples were received on 10/02/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.2 C.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples IW-IR (680-117408-1), IW-18 (680-117408-2), LAW-PZ-8R (680-117408-3), MW-14 (680-117408-4), MW-16 (680-117408-5), MW-17R (680-117408-6), MW-18R (680-117408-7), MW-19 (680-117408-8), MW-23 (680-117408-9), MW-24R (680-117408-10), MW-25 (680-117408-11), MW-26R (680-117408-12), MW-27 (680-117408-13), MW-28 (680-117408-14), MW-29 (680-117408-15), MW-30 (680-117408-16), MW-31 (680-117408-17), MW-32 (680-117408-18), MW-33 (680-117408-19), MW-34 (680-117408-20), MW-35 (680-117408-21), MW-36 (680-117408-22), MW-37 (680-117408-23), PAN-MW-9 (680-117408-24), PAN-MW-10 (680-117408-25) and Trip Blank (680-117408-26) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 10/09/2015, 10/10/2015, 10/12/2015, 10/13/2015 and 10/14/2015.

Bromomethane, Chloromethane and Tetrachloroethene failed the recovery criteria high for LCS 680-405241/4. Carbon tetrachloride failed the recovery criteria high for LCS 680-405400/4. Bromomethane, Chloromethane and Tetrachloroethene failed the recovery criteria high for LCSD 680-405241/5. Carbon tetrachloride failed the recovery criteria high for LCSD 680-405400/5. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Several analytes failed the recovery criteria high for the MS of sample 680-117585-3 in batch 680-405413.

Several analytes exceeded the RPD limit for the MSD of sample 680-117585-3 in batch 680-405413.

Refer to the QC report for details.

Samples IW-IR (680-117408-1)[200X], IW-18 (680-117408-2)[25X], LAW-PZ-8R (680-117408-3)[1000X], MW-16 (680-117408-5)[2X], MW-24R (680-117408-10)[5X], MW-26R (680-117408-12)[5X], MW-28 (680-117408-14)[2X], MW-29 (680-117408-15)[100X], MW-33 (680-117408-19)[5X], MW-37 (680-117408-23)[5X] and PAN-MW-9 (680-117408-24)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Client Sample ID: IW-IR — Lab Sample ID: 680-117408-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 330 | | 200 | 100 | ug/L | 200 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 8800 | | 200 | 82 | ug/L | 200 | | 8260B | Total/NA |
| Benzene | 180 | J | 200 | 86 | ug/L | 200 | | 8260B | Total/NA |
| Trichloroethene | 100 | J | 200 | 96 | ug/L | 200 | | 8260B | Total/NA |
| Toluene | 200 | | 200 | 96 | ug/L | 200 | | 8260B | Total/NA |
| Tetrachloroethene | 230 | | 200 | 150 | ug/L | 200 | | 8260B | Total/NA |
| Chlorobenzene | 920 | | 200 | 52 | ug/L | 200 | | 8260B | Total/NA |
| Ethylbenzene | 2200 | | 200 | 66 | ug/L | 200 | | 8260B | Total/NA |
| Xylenes, Total | 19000 | | 200 | 46 | ug/L | 200 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 89 | J | 200 | 86 | ug/L | 200 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 780 | | 200 | 92 | ug/L | 200 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 170 | J | 200 | 74 | ug/L | 200 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 1200 | | 1000 | 500 | ug/L | 200 | | 8260B | Total/NA |

## Client Sample ID: IW-18 — Lab Sample ID: 680-117408-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 710 | | 25 | 13 | ug/L | 25 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 2400 | | 25 | 10 | ug/L | 25 | | 8260B | Total/NA |
| Benzene | 200 | | 25 | 11 | ug/L | 25 | | 8260B | Total/NA |
| Trichloroethene | 25 | | 25 | 12 | ug/L | 25 | | 8260B | Total/NA |
| Toluene | 35 | | 25 | 12 | ug/L | 25 | | 8260B | Total/NA |
| Tetrachloroethene | 39 | | 25 | 19 | ug/L | 25 | | 8260B | Total/NA |
| Chlorobenzene | 670 | | 25 | 6.5 | ug/L | 25 | | 8260B | Total/NA |
| Ethylbenzene | 300 | | 25 | 8.3 | ug/L | 25 | | 8260B | Total/NA |
| Xylenes, Total | 3000 | | 25 | 5.8 | ug/L | 25 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 13 | J | 25 | 11 | ug/L | 25 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 75 | | 25 | 12 | ug/L | 25 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 21 | J | 25 | 9.3 | ug/L | 25 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 70 | J | 130 | 63 | ug/L | 25 | | 8260B | Total/NA |

## Client Sample ID: LAW-PZ-8R — Lab Sample ID: 680-117408-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 5500 | | 1000 | 410 | ug/L | 1000 | | 8260B | Total/NA |
| Benzene | 1200 | | 1000 | 430 | ug/L | 1000 | | 8260B | Total/NA |
| Chlorobenzene | 3600 | | 1000 | 260 | ug/L | 1000 | | 8260B | Total/NA |
| Ethylbenzene | 6200 | | 1000 | 330 | ug/L | 1000 | | 8260B | Total/NA |
| Xylenes, Total | 78000 | | 1000 | 230 | ug/L | 1000 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 940 | J | 1000 | 460 | ug/L | 1000 | | 8260B | Total/NA |

## Client Sample ID: MW-14 — Lab Sample ID: 680-117408-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 0.46 | J | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-16 — Lab Sample ID: 680-117408-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 75 | | 2.0 | 1.0 | ug/L | 2 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

## Client Sample ID: MW-16 (Continued) — Lab Sample ID: 680-117408-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 150 | | 2.0 | 0.82 | ug/L | 2 | | 8260B | Total/NA |
| Benzene | 1.7 | J | 2.0 | 0.86 | ug/L | 2 | | 8260B | Total/NA |
| Chlorobenzene | 9.2 | | 2.0 | 0.52 | ug/L | 2 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 2.1 | | 2.0 | 0.86 | ug/L | 2 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 4.4 | | 2.0 | 0.92 | ug/L | 2 | | 8260B | Total/NA |

## Client Sample ID: MW-17R — Lab Sample ID: 680-117408-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | 0.59 | J | 1.0 | 0.33 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 0.23 | J | 1.0 | 0.23 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 45 | | 1.0 | 0.35 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-18R — Lab Sample ID: 680-117408-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 1.1 | | 1.0 | 0.60 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-19 — Lab Sample ID: 680-117408-8

No Detections.

## Client Sample ID: MW-23 — Lab Sample ID: 680-117408-9

No Detections.

## Client Sample ID: MW-24R — Lab Sample ID: 680-117408-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 24 | | 5.0 | 2.5 | ug/L | 5 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 1.9 | J | 5.0 | 1.9 | ug/L | 5 | | 8260B | Total/NA |
| Methyl tert-butyl ether | 140 | | 50 | 1.5 | ug/L | 5 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 360 | | 5.0 | 2.1 | ug/L | 5 | | 8260B | Total/NA |
| Benzene | 4.4 | J | 5.0 | 2.2 | ug/L | 5 | | 8260B | Total/NA |

## Client Sample ID: MW-25 — Lab Sample ID: 680-117408-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Cyclohexane | 0.72 | J | 1.0 | 0.39 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 1.2 | | 1.0 | 0.35 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-26R — Lab Sample ID: 680-117408-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 2.4 | J | 5.0 | 2.1 | ug/L | 5 | | 8260B | Total/NA |
| Benzene | 37 | | 5.0 | 2.2 | ug/L | 5 | | 8260B | Total/NA |
| Chlorobenzene | 100 | | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| Ethylbenzene | 18 | | 5.0 | 1.7 | ug/L | 5 | | 8260B | Total/NA |
| Xylenes, Total | 350 | | 5.0 | 1.2 | ug/L | 5 | | 8260B | Total/NA |
| Isopropylbenzene | 2.6 | J | 5.0 | 1.8 | ug/L | 5 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Client Sample ID: MW-27 — Lab Sample ID: 680-117408-13

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 30 | | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| Methyl tert-butyl ether | 3.9 | J | 10 | 0.30 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 10 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 0.62 | J | 1.0 | 0.48 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 34 | | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 3.2 | | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 2.3 | | 1.0 | 0.46 | ug/L | 1 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 0.48 | J | 1.0 | 0.37 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-28 — Lab Sample ID: 680-117408-14

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 80 | | 2.0 | 1.0 | ug/L | 2 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 0.91 | J | 2.0 | 0.72 | ug/L | 2 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 0.97 | J | 2.0 | 0.74 | ug/L | 2 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 220 | | 2.0 | 0.82 | ug/L | 2 | | 8260B | Total/NA |
| Benzene | 10 | | 2.0 | 0.86 | ug/L | 2 | | 8260B | Total/NA |
| Trichloroethene | 6.9 | | 2.0 | 0.96 | ug/L | 2 | | 8260B | Total/NA |
| Tetrachloroethene | 32 | | 2.0 | 1.5 | ug/L | 2 | | 8260B | Total/NA |
| Chlorobenzene | 67 | | 2.0 | 0.52 | ug/L | 2 | | 8260B | Total/NA |
| Xylenes, Total | 1.6 | J | 2.0 | 0.46 | ug/L | 2 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 2.7 | | 2.0 | 0.86 | ug/L | 2 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 19 | | 2.0 | 0.92 | ug/L | 2 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 4.6 | | 2.0 | 0.74 | ug/L | 2 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 21 | | 10 | 5.0 | ug/L | 2 | | 8260B | Total/NA |

## Client Sample ID: MW-29 — Lab Sample ID: 680-117408-15

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 1000 | | 100 | 50 | ug/L | 100 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 9000 | | 100 | 41 | ug/L | 100 | | 8260B | Total/NA |
| Trichloroethene | 130 | | 100 | 48 | ug/L | 100 | | 8260B | Total/NA |
| Tetrachloroethene | 110 | | 100 | 74 | ug/L | 100 | | 8260B | Total/NA |
| Chlorobenzene | 190 | | 100 | 26 | ug/L | 100 | | 8260B | Total/NA |
| Ethylbenzene | 1700 | | 100 | 33 | ug/L | 100 | | 8260B | Total/NA |
| Xylenes, Total | 4700 | | 100 | 23 | ug/L | 100 | | 8260B | Total/NA |
| Isopropylbenzene | 49 | J | 100 | 35 | ug/L | 100 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 55 | J | 100 | 43 | ug/L | 100 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 190 | | 100 | 46 | ug/L | 100 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 39 | J | 100 | 37 | ug/L | 100 | | 8260B | Total/NA |

## Client Sample ID: MW-30 — Lab Sample ID: 680-117408-16

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 2.0 | | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 1.7 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 0.43 | J | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 0.90 | J | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Client Sample ID: MW-31 — Lab Sample ID: 680-117408-17

No Detections.

## Client Sample ID: MW-32 — Lab Sample ID: 680-117408-18

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Trichlorofluoromethane | 5.7 | | 1.0 | 0.42 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 0.81 | J | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 0.49 | J | 1.0 | 0.48 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 1.3 | | 1.0 | 0.74 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-33 — Lab Sample ID: 680-117408-19

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 170 | | 5.0 | 2.5 | ug/L | 5 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 3.3 | J | 5.0 | 1.9 | ug/L | 5 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 260 | | 5.0 | 2.1 | ug/L | 5 | | 8260B | Total/NA |
| Trichloroethene | 48 | | 5.0 | 2.4 | ug/L | 5 | | 8260B | Total/NA |
| Tetrachloroethene | 5.0 | | 5.0 | 3.7 | ug/L | 5 | | 8260B | Total/NA |
| Chlorobenzene | 70 | | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| Ethylbenzene | 4.6 | J | 5.0 | 1.7 | ug/L | 5 | | 8260B | Total/NA |
| Xylenes, Total | 19 | | 5.0 | 1.2 | ug/L | 5 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 26 | | 5.0 | 2.2 | ug/L | 5 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 110 | | 5.0 | 2.3 | ug/L | 5 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 10 | | 5.0 | 1.9 | ug/L | 5 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 23 | J | 25 | 13 | ug/L | 5 | | 8260B | Total/NA |

## Client Sample ID: MW-34 — Lab Sample ID: 680-117408-20

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 4.4 | | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 16 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 1.3 | | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 0.86 | J | 1.0 | 0.48 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 4.2 | | 1.0 | 0.74 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 4.2 | | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 1.1 | | 1.0 | 0.46 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 2.7 | J | 5.0 | 2.5 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-35 — Lab Sample ID: 680-117408-21

No Detections.

## Client Sample ID: MW-36 — Lab Sample ID: 680-117408-22

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 0.81 | J | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-37 — Lab Sample ID: 680-117408-23

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 200 | | 5.0 | 2.5 | ug/L | 5 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 4.2 | J | 5.0 | 1.8 | ug/L | 5 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Client Sample ID: MW-37 (Continued) — Lab Sample ID: 680-117408-23

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| trans-1,2-Dichloroethene | 2.3 | J | 5.0 | 1.9 | ug/L | 5 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 900 | | 5.0 | 2.1 | ug/L | 5 | | 8260B | Total/NA |
| Benzene | 22 | | 5.0 | 2.2 | ug/L | 5 | | 8260B | Total/NA |
| Trichloroethene | 25 | | 5.0 | 2.4 | ug/L | 5 | | 8260B | Total/NA |
| Tetrachloroethene | 92 | | 5.0 | 3.7 | ug/L | 5 | | 8260B | Total/NA |
| Chlorobenzene | 180 | | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| Ethylbenzene | 1.8 | J | 5.0 | 1.7 | ug/L | 5 | | 8260B | Total/NA |
| Xylenes, Total | 4.1 | J | 5.0 | 1.2 | ug/L | 5 | | 8260B | Total/NA |
| Isopropylbenzene | 2.3 | J | 5.0 | 1.8 | ug/L | 5 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 15 | | 5.0 | 2.2 | ug/L | 5 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 100 | | 5.0 | 2.3 | ug/L | 5 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 25 | | 5.0 | 1.9 | ug/L | 5 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 270 | | 25 | 13 | ug/L | 5 | | 8260B | Total/NA |

## Client Sample ID: PAN-MW-9 — Lab Sample ID: 680-117408-24

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 160 | | 20 | 10 | ug/L | 20 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 7.5 | J | 20 | 7.2 | ug/L | 20 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 2900 | | 20 | 8.2 | ug/L | 20 | | 8260B | Total/NA |
| Benzene | 8.6 | J | 20 | 8.6 | ug/L | 20 | | 8260B | Total/NA |
| Chlorobenzene | 54 | | 20 | 5.2 | ug/L | 20 | | 8260B | Total/NA |
| Ethylbenzene | 560 | | 20 | 6.6 | ug/L | 20 | | 8260B | Total/NA |
| Xylenes, Total | 1500 | | 20 | 4.6 | ug/L | 20 | | 8260B | Total/NA |
| Isopropylbenzene | 25 | | 20 | 7.0 | ug/L | 20 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 12 | J | 20 | 8.6 | ug/L | 20 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 39 | | 20 | 9.2 | ug/L | 20 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 7.5 | J | 20 | 7.4 | ug/L | 20 | | 8260B | Total/NA |

## Client Sample ID: PAN-MW-10 — Lab Sample ID: 680-117408-25

No Detections.

## Client Sample ID: Trip Blank — Lab Sample ID: 680-117408-26

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

**Client Sample ID: IW-IR**
**Date Collected: 10/01/15 11:20**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-1**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <120 | | 200 | 120 | ug/L | | | 10/14/15 14:41 | 200 |
| Chloromethane | <80 | | 200 | 80 | ug/L | | | 10/14/15 14:41 | 200 |
| **Vinyl chloride** | **330** | | 200 | 100 | ug/L | | | 10/14/15 14:41 | 200 |
| Bromomethane | <500 | | 1000 | 500 | ug/L | | | 10/14/15 14:41 | 200 |
| Chloroethane | <500 | | 1000 | 500 | ug/L | | | 10/14/15 14:41 | 200 |
| Trichlorofluoromethane | <84 | | 200 | 84 | ug/L | | | 10/14/15 14:41 | 200 |
| 1,1-Dichloroethene | <72 | | 200 | 72 | ug/L | | | 10/14/15 14:41 | 200 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <72 | | 200 | 72 | ug/L | | | 10/14/15 14:41 | 200 |
| Acetone | <1400 | | 2000 | 1400 | ug/L | | | 10/14/15 14:41 | 200 |
| Carbon disulfide | <200 | | 400 | 200 | ug/L | | | 10/14/15 14:41 | 200 |
| Methyl acetate | <360 | | 1000 | 360 | ug/L | | | 10/14/15 14:41 | 200 |
| Methylene Chloride | <500 | | 1000 | 500 | ug/L | | | 10/14/15 14:41 | 200 |
| trans-1,2-Dichloroethene | <74 | | 200 | 74 | ug/L | | | 10/14/15 14:41 | 200 |
| Methyl tert-butyl ether | <60 | | 2000 | 60 | ug/L | | | 10/14/15 14:41 | 200 |
| 1,1-Dichloroethane | <76 | | 200 | 76 | ug/L | | | 10/14/15 14:41 | 200 |
| **cis-1,2-Dichloroethene** | **8800** | | 200 | 82 | ug/L | | | 10/14/15 14:41 | 200 |
| 2-Butanone | <680 | | 2000 | 680 | ug/L | | | 10/14/15 14:41 | 200 |
| Chloroform | <100 | | 200 | 100 | ug/L | | | 10/14/15 14:41 | 200 |
| 1,1,1-Trichloroethane | <74 | | 200 | 74 | ug/L | | | 10/14/15 14:41 | 200 |
| Cyclohexane | <78 | | 200 | 78 | ug/L | | | 10/14/15 14:41 | 200 |
| Carbon tetrachloride | <66 | | 200 | 66 | ug/L | | | 10/14/15 14:41 | 200 |
| **Benzene** | **180** | **J** | 200 | 86 | ug/L | | | 10/14/15 14:41 | 200 |
| 1,2-Dichloroethane | <100 | | 200 | 100 | ug/L | | | 10/14/15 14:41 | 200 |
| **Trichloroethene** | **100** | **J** | 200 | 96 | ug/L | | | 10/14/15 14:41 | 200 |
| Methylcyclohexane | <86 | | 200 | 86 | ug/L | | | 10/14/15 14:41 | 200 |
| 1,2-Dichloropropane | <130 | | 200 | 130 | ug/L | | | 10/14/15 14:41 | 200 |
| Bromodichloromethane | <88 | | 200 | 88 | ug/L | | | 10/14/15 14:41 | 200 |
| cis-1,3-Dichloropropene | <80 | | 200 | 80 | ug/L | | | 10/14/15 14:41 | 200 |
| 4-Methyl-2-pentanone | <420 | | 2000 | 420 | ug/L | | | 10/14/15 14:41 | 200 |
| **Toluene** | **200** | | 200 | 96 | ug/L | | | 10/14/15 14:41 | 200 |
| trans-1,3-Dichloropropene | <84 | | 200 | 84 | ug/L | | | 10/14/15 14:41 | 200 |
| 1,1,2-Trichloroethane | <66 | | 200 | 66 | ug/L | | | 10/14/15 14:41 | 200 |
| **Tetrachloroethene** | **230** | | 200 | 150 | ug/L | | | 10/14/15 14:41 | 200 |
| 2-Hexanone | <400 | | 2000 | 400 | ug/L | | | 10/14/15 14:41 | 200 |
| Dibromochloromethane | <64 | | 200 | 64 | ug/L | | | 10/14/15 14:41 | 200 |
| 1,2-Dibromoethane | <88 | | 200 | 88 | ug/L | | | 10/14/15 14:41 | 200 |
| **Chlorobenzene** | **920** | | 200 | 52 | ug/L | | | 10/14/15 14:41 | 200 |
| **Ethylbenzene** | **2200** | | 200 | 66 | ug/L | | | 10/14/15 14:41 | 200 |
| **Xylenes, Total** | **19000** | | 200 | 46 | ug/L | | | 10/14/15 14:41 | 200 |
| Styrene | <54 | | 200 | 54 | ug/L | | | 10/14/15 14:41 | 200 |
| Bromoform | <86 | | 200 | 86 | ug/L | | | 10/14/15 14:41 | 200 |
| Isopropylbenzene | <70 | | 200 | 70 | ug/L | | | 10/14/15 14:41 | 200 |
| 1,1,2,2-Tetrachloroethane | <120 | | 200 | 120 | ug/L | | | 10/14/15 14:41 | 200 |
| **1,3-Dichlorobenzene** | **89** | **J** | 200 | 86 | ug/L | | | 10/14/15 14:41 | 200 |
| **1,4-Dichlorobenzene** | **780** | | 200 | 92 | ug/L | | | 10/14/15 14:41 | 200 |
| **1,2-Dichlorobenzene** | **170** | **J** | 200 | 74 | ug/L | | | 10/14/15 14:41 | 200 |
| 1,2-Dibromo-3-Chloropropane | <220 | | 1000 | 220 | ug/L | | | 10/14/15 14:41 | 200 |
| **1,2,4-Trichlorobenzene** | **1200** | | 1000 | 500 | ug/L | | | 10/14/15 14:41 | 200 |

## Client Sample ID: IW-IR

**Date Collected: 10/01/15 11:20**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-1**
**Matrix: Water**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *10/14/15 14:41* | *200* |
| *1,2-Dichloroethane-d4 (Surr)* | *99* | | *70 - 130* | | *10/14/15 14:41* | *200* |
| *Dibromofluoromethane (Surr)* | *97* | | *70 - 130* | | *10/14/15 14:41* | *200* |
| *4-Bromofluorobenzene (Surr)* | *105* | | *70 - 130* | | *10/14/15 14:41* | *200* |

## Client Sample ID: IW-18

**Date Collected: 10/01/15 19:14**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-2**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <15 | | 25 | 15 | ug/L | | | 10/14/15 12:06 | 25 |
| Chloromethane | <10 | | 25 | 10 | ug/L | | | 10/14/15 12:06 | 25 |
| **Vinyl chloride** | **710** | | 25 | 13 | ug/L | | | 10/14/15 12:06 | 25 |
| Bromomethane | <63 | | 130 | 63 | ug/L | | | 10/14/15 12:06 | 25 |
| Chloroethane | <63 | | 130 | 63 | ug/L | | | 10/14/15 12:06 | 25 |
| Trichlorofluoromethane | <11 | | 25 | 11 | ug/L | | | 10/14/15 12:06 | 25 |
| 1,1-Dichloroethene | <9.0 | | 25 | 9.0 | ug/L | | | 10/14/15 12:06 | 25 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <9.0 | | 25 | 9.0 | ug/L | | | 10/14/15 12:06 | 25 |
| Acetone | <180 | | 250 | 180 | ug/L | | | 10/14/15 12:06 | 25 |
| Carbon disulfide | <25 | | 50 | 25 | ug/L | | | 10/14/15 12:06 | 25 |
| Methyl acetate | <45 | | 130 | 45 | ug/L | | | 10/14/15 12:06 | 25 |
| Methylene Chloride | <63 | | 130 | 63 | ug/L | | | 10/14/15 12:06 | 25 |
| trans-1,2-Dichloroethene | <9.3 | | 25 | 9.3 | ug/L | | | 10/14/15 12:06 | 25 |
| Methyl tert-butyl ether | <7.5 | | 250 | 7.5 | ug/L | | | 10/14/15 12:06 | 25 |
| 1,1-Dichloroethane | <9.5 | | 25 | 9.5 | ug/L | | | 10/14/15 12:06 | 25 |
| **cis-1,2-Dichloroethene** | **2400** | | 25 | 10 | ug/L | | | 10/14/15 12:06 | 25 |
| 2-Butanone | <85 | | 250 | 85 | ug/L | | | 10/14/15 12:06 | 25 |
| Chloroform | <13 | | 25 | 13 | ug/L | | | 10/14/15 12:06 | 25 |
| 1,1,1-Trichloroethane | <9.3 | | 25 | 9.3 | ug/L | | | 10/14/15 12:06 | 25 |
| Cyclohexane | <9.8 | | 25 | 9.8 | ug/L | | | 10/14/15 12:06 | 25 |
| Carbon tetrachloride | <8.3 | | 25 | 8.3 | ug/L | | | 10/14/15 12:06 | 25 |
| **Benzene** | **200** | | 25 | 11 | ug/L | | | 10/14/15 12:06 | 25 |
| 1,2-Dichloroethane | <13 | | 25 | 13 | ug/L | | | 10/14/15 12:06 | 25 |
| **Trichloroethene** | **25** | | 25 | 12 | ug/L | | | 10/14/15 12:06 | 25 |
| Methylcyclohexane | <11 | | 25 | 11 | ug/L | | | 10/14/15 12:06 | 25 |
| 1,2-Dichloropropane | <17 | | 25 | 17 | ug/L | | | 10/14/15 12:06 | 25 |
| Bromodichloromethane | <11 | | 25 | 11 | ug/L | | | 10/14/15 12:06 | 25 |
| cis-1,3-Dichloropropene | <10 | | 25 | 10 | ug/L | | | 10/14/15 12:06 | 25 |
| 4-Methyl-2-pentanone | <53 | | 250 | 53 | ug/L | | | 10/14/15 12:06 | 25 |
| **Toluene** | **35** | | 25 | 12 | ug/L | | | 10/14/15 12:06 | 25 |
| trans-1,3-Dichloropropene | <11 | | 25 | 11 | ug/L | | | 10/14/15 12:06 | 25 |
| 1,1,2-Trichloroethane | <8.3 | | 25 | 8.3 | ug/L | | | 10/14/15 12:06 | 25 |
| **Tetrachloroethene** | **39** | | 25 | 19 | ug/L | | | 10/14/15 12:06 | 25 |
| 2-Hexanone | <50 | | 250 | 50 | ug/L | | | 10/14/15 12:06 | 25 |
| Dibromochloromethane | <8.0 | | 25 | 8.0 | ug/L | | | 10/14/15 12:06 | 25 |
| 1,2-Dibromoethane | <11 | | 25 | 11 | ug/L | | | 10/14/15 12:06 | 25 |
| **Chlorobenzene** | **670** | | 25 | 6.5 | ug/L | | | 10/14/15 12:06 | 25 |
| **Ethylbenzene** | **300** | | 25 | 8.3 | ug/L | | | 10/14/15 12:06 | 25 |
| **Xylenes, Total** | **3000** | | 25 | 5.8 | ug/L | | | 10/14/15 12:06 | 25 |

## Client Sample ID: IW-18

**Lab Sample ID: 680-117408-2**

**Date Collected: 10/01/15 19:14**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <6.8 | | 25 | 6.8 | ug/L | | | 10/14/15 12:06 | 25 |
| Bromoform | <11 | | 25 | 11 | ug/L | | | 10/14/15 12:06 | 25 |
| Isopropylbenzene | <8.8 | | 25 | 8.8 | ug/L | | | 10/14/15 12:06 | 25 |
| 1,1,2,2-Tetrachloroethane | <16 | | 25 | 16 | ug/L | | | 10/14/15 12:06 | 25 |
| **1,3-Dichlorobenzene** | **13** | **J** | 25 | 11 | ug/L | | | 10/14/15 12:06 | 25 |
| **1,4-Dichlorobenzene** | **75** | | 25 | 12 | ug/L | | | 10/14/15 12:06 | 25 |
| **1,2-Dichlorobenzene** | **21** | **J** | 25 | 9.3 | ug/L | | | 10/14/15 12:06 | 25 |
| 1,2-Dibromo-3-Chloropropane | <28 | | 130 | 28 | ug/L | | | 10/14/15 12:06 | 25 |
| **1,2,4-Trichlorobenzene** | **70** | **J** | 130 | 63 | ug/L | | | 10/14/15 12:06 | 25 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *97* | | *70 - 130* | | *10/14/15 12:06* | *25* |
| *1,2-Dichloroethane-d4 (Surr)* | *125* | | *70 - 130* | | *10/14/15 12:06* | *25* |
| *Dibromofluoromethane (Surr)* | *118* | | *70 - 130* | | *10/14/15 12:06* | *25* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/14/15 12:06* | *25* |

## Client Sample ID: LAW-PZ-8R

**Lab Sample ID: 680-117408-3**

**Date Collected: 10/01/15 14:34**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <600 | | 1000 | 600 | ug/L | | | 10/13/15 15:09 | 1000 |
| Chloromethane | <400 | | 1000 | 400 | ug/L | | | 10/13/15 15:09 | 1000 |
| Vinyl chloride | <500 | | 1000 | 500 | ug/L | | | 10/13/15 15:09 | 1000 |
| Bromomethane | <2500 | | 5000 | 2500 | ug/L | | | 10/13/15 15:09 | 1000 |
| Chloroethane | <2500 | | 5000 | 2500 | ug/L | | | 10/13/15 15:09 | 1000 |
| Trichlorofluoromethane | <420 | | 1000 | 420 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,1-Dichloroethene | <360 | | 1000 | 360 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <360 | | 1000 | 360 | ug/L | | | 10/13/15 15:09 | 1000 |
| Acetone | <7000 | | 10000 | 7000 | ug/L | | | 10/13/15 15:09 | 1000 |
| Carbon disulfide | <1000 | | 2000 | 1000 | ug/L | | | 10/13/15 15:09 | 1000 |
| Methyl acetate | <1800 | | 5000 | 1800 | ug/L | | | 10/13/15 15:09 | 1000 |
| Methylene Chloride | <2500 | | 5000 | 2500 | ug/L | | | 10/13/15 15:09 | 1000 |
| trans-1,2-Dichloroethene | <370 | | 1000 | 370 | ug/L | | | 10/13/15 15:09 | 1000 |
| Methyl tert-butyl ether | <300 | | 10000 | 300 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,1-Dichloroethane | <380 | | 1000 | 380 | ug/L | | | 10/13/15 15:09 | 1000 |
| **cis-1,2-Dichloroethene** | **5500** | | 1000 | 410 | ug/L | | | 10/13/15 15:09 | 1000 |
| 2-Butanone | <3400 | | 10000 | 3400 | ug/L | | | 10/13/15 15:09 | 1000 |
| Chloroform | <500 | | 1000 | 500 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,1,1-Trichloroethane | <370 | | 1000 | 370 | ug/L | | | 10/13/15 15:09 | 1000 |
| Cyclohexane | <390 | | 1000 | 390 | ug/L | | | 10/13/15 15:09 | 1000 |
| Carbon tetrachloride | <330 | | 1000 | 330 | ug/L | | | 10/13/15 15:09 | 1000 |
| **Benzene** | **1200** | | 1000 | 430 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,2-Dichloroethane | <500 | | 1000 | 500 | ug/L | | | 10/13/15 15:09 | 1000 |
| Trichloroethene | <480 | | 1000 | 480 | ug/L | | | 10/13/15 15:09 | 1000 |
| Methylcyclohexane | <430 | | 1000 | 430 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,2-Dichloropropane | <670 | | 1000 | 670 | ug/L | | | 10/13/15 15:09 | 1000 |
| Bromodichloromethane | <440 | | 1000 | 440 | ug/L | | | 10/13/15 15:09 | 1000 |
| cis-1,3-Dichloropropene | <400 | | 1000 | 400 | ug/L | | | 10/13/15 15:09 | 1000 |

## Client Sample ID: LAW-PZ-8R

**Lab Sample ID: 680-117408-3**

**Date Collected: 10/01/15 14:34**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2100 | | 10000 | 2100 | ug/L | | | 10/13/15 15:09 | 1000 |
| Toluene | <480 | | 1000 | 480 | ug/L | | | 10/13/15 15:09 | 1000 |
| trans-1,3-Dichloropropene | <420 | | 1000 | 420 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,1,2-Trichloroethane | <330 | | 1000 | 330 | ug/L | | | 10/13/15 15:09 | 1000 |
| Tetrachloroethene | <740 | | 1000 | 740 | ug/L | | | 10/13/15 15:09 | 1000 |
| 2-Hexanone | <2000 | | 10000 | 2000 | ug/L | | | 10/13/15 15:09 | 1000 |
| Dibromochloromethane | <320 | | 1000 | 320 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,2-Dibromoethane | <440 | | 1000 | 440 | ug/L | | | 10/13/15 15:09 | 1000 |
| **Chlorobenzene** | **3600** | | 1000 | 260 | ug/L | | | 10/13/15 15:09 | 1000 |
| **Ethylbenzene** | **6200** | | 1000 | 330 | ug/L | | | 10/13/15 15:09 | 1000 |
| **Xylenes, Total** | **78000** | | 1000 | 230 | ug/L | | | 10/13/15 15:09 | 1000 |
| Styrene | <270 | | 1000 | 270 | ug/L | | | 10/13/15 15:09 | 1000 |
| Bromoform | <430 | | 1000 | 430 | ug/L | | | 10/13/15 15:09 | 1000 |
| Isopropylbenzene | <350 | | 1000 | 350 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,1,2,2-Tetrachloroethane | <620 | | 1000 | 620 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,3-Dichlorobenzene | <430 | | 1000 | 430 | ug/L | | | 10/13/15 15:09 | 1000 |
| **1,4-Dichlorobenzene** | **940** | **J** | 1000 | 460 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,2-Dichlorobenzene | <370 | | 1000 | 370 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,2-Dibromo-3-Chloropropane | <1100 | | 5000 | 1100 | ug/L | | | 10/13/15 15:09 | 1000 |
| 1,2,4-Trichlorobenzene | <2500 | | 5000 | 2500 | ug/L | | | 10/13/15 15:09 | 1000 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *80* | | *70 - 130* | | *10/13/15 15:09* | *1000* |
| *1,2-Dichloroethane-d4 (Surr)* | *105* | | *70 - 130* | | *10/13/15 15:09* | *1000* |
| *Dibromofluoromethane (Surr)* | *110* | | *70 - 130* | | *10/13/15 15:09* | *1000* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | | *10/13/15 15:09* | *1000* |

## Client Sample ID: MW-14

**Lab Sample ID: 680-117408-4**

**Date Collected: 09/30/15 17:38**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/12/15 16:47 | 1 |
| Chloromethane | <0.40 | * | 1.0 | 0.40 | ug/L | | | 10/12/15 16:47 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 16:47 | 1 |
| Bromomethane | <2.5 | * | 5.0 | 2.5 | ug/L | | | 10/12/15 16:47 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 16:47 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 16:47 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/12/15 16:47 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/12/15 16:47 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/12/15 16:47 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 16:47 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 16:47 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/12/15 16:47 | 1 |
| **cis-1,2-Dichloroethene** | **0.46** | **J** | 1.0 | 0.41 | ug/L | | | 10/12/15 16:47 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/12/15 16:47 | 1 |

## Client Sample ID: MW-14

**Date Collected: 09/30/15 17:38**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-4**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 16:47 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/12/15 16:47 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 16:47 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 16:47 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 16:47 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/12/15 16:47 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 16:47 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/12/15 16:47 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/12/15 16:47 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 16:47 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 16:47 | 1 |
| Tetrachloroethene | <0.74 | * | 1.0 | 0.74 | ug/L | | | 10/12/15 16:47 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/12/15 16:47 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 16:47 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/12/15 16:47 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 16:47 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/12/15 16:47 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/12/15 16:47 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 16:47 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/12/15 16:47 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 16:47 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *107* | | *70 - 130* | | *10/12/15 16:47* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *89* | | *70 - 130* | | *10/12/15 16:47* | *1* |
| *Dibromofluoromethane (Surr)* | *97* | | *70 - 130* | | *10/12/15 16:47* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *10/12/15 16:47* | *1* |

## Client Sample ID: MW-16

**Date Collected: 09/30/15 16:03**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-5**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <1.2 | | 2.0 | 1.2 | ug/L | | | 10/12/15 16:02 | 2 |
| Chloromethane | <0.80 | * | 2.0 | 0.80 | ug/L | | | 10/12/15 16:02 | 2 |
| **Vinyl chloride** | **75** | | 2.0 | 1.0 | ug/L | | | 10/12/15 16:02 | 2 |
| Bromomethane | <5.0 | * | 10 | 5.0 | ug/L | | | 10/12/15 16:02 | 2 |
| Chloroethane | <5.0 | | 10 | 5.0 | ug/L | | | 10/12/15 16:02 | 2 |
| Trichlorofluoromethane | <0.84 | | 2.0 | 0.84 | ug/L | | | 10/12/15 16:02 | 2 |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

**Client Sample ID: MW-16**
**Date Collected: 09/30/15 16:03**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-5**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.72 | | 2.0 | 0.72 | ug/L | | | 10/12/15 16:02 | 2 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.72 | | 2.0 | 0.72 | ug/L | | | 10/12/15 16:02 | 2 |
| Acetone | <14 | | 20 | 14 | ug/L | | | 10/12/15 16:02 | 2 |
| Carbon disulfide | <2.0 | | 4.0 | 2.0 | ug/L | | | 10/12/15 16:02 | 2 |
| Methyl acetate | <3.6 | | 10 | 3.6 | ug/L | | | 10/12/15 16:02 | 2 |
| Methylene Chloride | <5.0 | | 10 | 5.0 | ug/L | | | 10/12/15 16:02 | 2 |
| trans-1,2-Dichloroethene | <0.74 | | 2.0 | 0.74 | ug/L | | | 10/12/15 16:02 | 2 |
| Methyl tert-butyl ether | <0.60 | | 20 | 0.60 | ug/L | | | 10/12/15 16:02 | 2 |
| 1,1-Dichloroethane | <0.76 | | 2.0 | 0.76 | ug/L | | | 10/12/15 16:02 | 2 |
| **cis-1,2-Dichloroethene** | **150** | | 2.0 | 0.82 | ug/L | | | 10/12/15 16:02 | 2 |
| 2-Butanone | <6.8 | | 20 | 6.8 | ug/L | | | 10/12/15 16:02 | 2 |
| Chloroform | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/12/15 16:02 | 2 |
| 1,1,1-Trichloroethane | <0.74 | | 2.0 | 0.74 | ug/L | | | 10/12/15 16:02 | 2 |
| Cyclohexane | <0.78 | | 2.0 | 0.78 | ug/L | | | 10/12/15 16:02 | 2 |
| Carbon tetrachloride | <0.66 | | 2.0 | 0.66 | ug/L | | | 10/12/15 16:02 | 2 |
| **Benzene** | **1.7** | **J** | 2.0 | 0.86 | ug/L | | | 10/12/15 16:02 | 2 |
| 1,2-Dichloroethane | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/12/15 16:02 | 2 |
| Trichloroethene | <0.96 | | 2.0 | 0.96 | ug/L | | | 10/12/15 16:02 | 2 |
| Methylcyclohexane | <0.86 | | 2.0 | 0.86 | ug/L | | | 10/12/15 16:02 | 2 |
| 1,2-Dichloropropane | <1.3 | | 2.0 | 1.3 | ug/L | | | 10/12/15 16:02 | 2 |
| Bromodichloromethane | <0.88 | | 2.0 | 0.88 | ug/L | | | 10/12/15 16:02 | 2 |
| cis-1,3-Dichloropropene | <0.80 | | 2.0 | 0.80 | ug/L | | | 10/12/15 16:02 | 2 |
| 4-Methyl-2-pentanone | <4.2 | | 20 | 4.2 | ug/L | | | 10/12/15 16:02 | 2 |
| Toluene | <0.96 | | 2.0 | 0.96 | ug/L | | | 10/12/15 16:02 | 2 |
| trans-1,3-Dichloropropene | <0.84 | | 2.0 | 0.84 | ug/L | | | 10/12/15 16:02 | 2 |
| 1,1,2-Trichloroethane | <0.66 | | 2.0 | 0.66 | ug/L | | | 10/12/15 16:02 | 2 |
| Tetrachloroethene | <1.5 | * | 2.0 | 1.5 | ug/L | | | 10/12/15 16:02 | 2 |
| 2-Hexanone | <4.0 | | 20 | 4.0 | ug/L | | | 10/12/15 16:02 | 2 |
| Dibromochloromethane | <0.64 | | 2.0 | 0.64 | ug/L | | | 10/12/15 16:02 | 2 |
| 1,2-Dibromoethane | <0.88 | | 2.0 | 0.88 | ug/L | | | 10/12/15 16:02 | 2 |
| **Chlorobenzene** | **9.2** | | 2.0 | 0.52 | ug/L | | | 10/12/15 16:02 | 2 |
| Ethylbenzene | <0.66 | | 2.0 | 0.66 | ug/L | | | 10/12/15 16:02 | 2 |
| Xylenes, Total | <0.46 | | 2.0 | 0.46 | ug/L | | | 10/12/15 16:02 | 2 |
| Styrene | <0.54 | | 2.0 | 0.54 | ug/L | | | 10/12/15 16:02 | 2 |
| Bromoform | <0.86 | | 2.0 | 0.86 | ug/L | | | 10/12/15 16:02 | 2 |
| Isopropylbenzene | <0.70 | | 2.0 | 0.70 | ug/L | | | 10/12/15 16:02 | 2 |
| 1,1,2,2-Tetrachloroethane | <1.2 | | 2.0 | 1.2 | ug/L | | | 10/12/15 16:02 | 2 |
| **1,3-Dichlorobenzene** | **2.1** | | 2.0 | 0.86 | ug/L | | | 10/12/15 16:02 | 2 |
| **1,4-Dichlorobenzene** | **4.4** | | 2.0 | 0.92 | ug/L | | | 10/12/15 16:02 | 2 |
| 1,2-Dichlorobenzene | <0.74 | | 2.0 | 0.74 | ug/L | | | 10/12/15 16:02 | 2 |
| 1,2-Dibromo-3-Chloropropane | <2.2 | | 10 | 2.2 | ug/L | | | 10/12/15 16:02 | 2 |
| 1,2,4-Trichlorobenzene | <5.0 | | 10 | 5.0 | ug/L | | | 10/12/15 16:02 | 2 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *10/12/15 16:02* | *2* |
| *1,2-Dichloroethane-d4 (Surr)* | *90* | | *70 - 130* | | *10/12/15 16:02* | *2* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *10/12/15 16:02* | *2* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *10/12/15 16:02* | *2* |

**Client Sample ID: MW-17R**
**Date Collected: 09/30/15 10:03**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-6**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/12/15 14:09 | 1 |
| Chloromethane | <0.40 | * | 1.0 | 0.40 | ug/L | | | 10/12/15 14:09 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 14:09 | 1 |
| Bromomethane | <2.5 | * | 5.0 | 2.5 | ug/L | | | 10/12/15 14:09 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 14:09 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 14:09 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/12/15 14:09 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/12/15 14:09 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/12/15 14:09 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 14:09 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 14:09 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/12/15 14:09 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/12/15 14:09 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/12/15 14:09 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 14:09 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/12/15 14:09 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 14:09 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 14:09 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 14:09 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/12/15 14:09 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 14:09 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/12/15 14:09 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/12/15 14:09 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 14:09 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 14:09 | 1 |
| Tetrachloroethene | <0.74 | * | 1.0 | 0.74 | ug/L | | | 10/12/15 14:09 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/12/15 14:09 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 14:09 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/12/15 14:09 | 1 |
| **Ethylbenzene** | **0.59** | **J** | 1.0 | 0.33 | ug/L | | | 10/12/15 14:09 | 1 |
| **Xylenes, Total** | **0.23** | **J** | 1.0 | 0.23 | ug/L | | | 10/12/15 14:09 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/12/15 14:09 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 14:09 | 1 |
| **Isopropylbenzene** | **45** | | 1.0 | 0.35 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/12/15 14:09 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 14:09 | 1 |

## Client Sample ID: MW-17R

**Lab Sample ID: 680-117408-6**

**Date Collected: 09/30/15 10:03**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* | | *10/12/15 14:09* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *90* | | *70 - 130* | | *10/12/15 14:09* | *1* |
| *Dibromofluoromethane (Surr)* | *97* | | *70 - 130* | | *10/12/15 14:09* | *1* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | | *10/12/15 14:09* | *1* |

## Client Sample ID: MW-18R

**Lab Sample ID: 680-117408-7**

**Date Collected: 09/29/15 19:01**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Dichlorodifluoromethane** | **1.1** | | 1.0 | 0.60 | ug/L | | | 10/10/15 13:42 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/10/15 13:42 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 13:42 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 13:42 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 13:42 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/10/15 13:42 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/10/15 13:42 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/10/15 13:42 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/10/15 13:42 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 13:42 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 13:42 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/10/15 13:42 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/10/15 13:42 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/10/15 13:42 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 13:42 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/10/15 13:42 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 13:42 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 13:42 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/10/15 13:42 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/10/15 13:42 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/10/15 13:42 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/10/15 13:42 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/10/15 13:42 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/10/15 13:42 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 13:42 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/10/15 13:42 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/10/15 13:42 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/10/15 13:42 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/10/15 13:42 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 13:42 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/10/15 13:42 | 1 |

## Client Sample ID: MW-18R

**Date Collected: 09/29/15 19:01**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-7**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/10/15 13:42 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 13:42 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/10/15 13:42 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 13:42 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *10/10/15 13:42* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* | | *10/10/15 13:42* | *1* |
| *Dibromofluoromethane (Surr)* | *109* | | *70 - 130* | | *10/10/15 13:42* | *1* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *10/10/15 13:42* | *1* |

## Client Sample ID: MW-19

**Date Collected: 09/28/15 16:33**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-8**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/10/15 11:54 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/10/15 11:54 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 11:54 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 11:54 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 11:54 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/10/15 11:54 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/10/15 11:54 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/10/15 11:54 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/10/15 11:54 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 11:54 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 11:54 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/10/15 11:54 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/10/15 11:54 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/10/15 11:54 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 11:54 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/10/15 11:54 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 11:54 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 11:54 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/10/15 11:54 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/10/15 11:54 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/10/15 11:54 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/10/15 11:54 | 1 |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Client Sample ID: MW-19

**Date Collected: 09/28/15 16:33**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-8**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/10/15 11:54 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/10/15 11:54 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 11:54 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/10/15 11:54 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/10/15 11:54 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/10/15 11:54 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/10/15 11:54 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 11:54 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/10/15 11:54 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/10/15 11:54 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 11:54 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/10/15 11:54 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 11:54 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *10/10/15 11:54* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *106* | | *70 - 130* | | *10/10/15 11:54* | *1* |
| *Dibromofluoromethane (Surr)* | *107* | | *70 - 130* | | *10/10/15 11:54* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *10/10/15 11:54* | *1* |

## Client Sample ID: MW-23

**Date Collected: 09/28/15 14:43**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-9**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/09/15 16:06 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 16:06 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 16:06 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 16:06 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 16:06 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 16:06 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/09/15 16:06 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/09/15 16:06 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/09/15 16:06 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 16:06 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 16:06 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/09/15 16:06 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/09/15 16:06 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/09/15 16:06 | 1 |

## Client Sample ID: MW-23

**Lab Sample ID: 680-117408-9**

**Date Collected: 09/28/15 14:43**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 16:06 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/09/15 16:06 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 16:06 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 16:06 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/09/15 16:06 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/09/15 16:06 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 16:06 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 16:06 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/09/15 16:06 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/09/15 16:06 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 16:06 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/09/15 16:06 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/09/15 16:06 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 16:06 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/09/15 16:06 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 16:06 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/09/15 16:06 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/09/15 16:06 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 16:06 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/09/15 16:06 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 16:06 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *10/09/15 16:06* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *106* | | *70 - 130* | | *10/09/15 16:06* | *1* |
| *Dibromofluoromethane (Surr)* | *109* | | *70 - 130* | | *10/09/15 16:06* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *10/09/15 16:06* | *1* |

## Client Sample ID: MW-24R

**Lab Sample ID: 680-117408-10**

**Date Collected: 10/01/15 16:08**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <3.0 | | 5.0 | 3.0 | ug/L | | | 10/12/15 12:56 | 5 |
| Chloromethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/12/15 12:56 | 5 |
| **Vinyl chloride** | **24** | | 5.0 | 2.5 | ug/L | | | 10/12/15 12:56 | 5 |
| Bromomethane | <13 | | 25 | 13 | ug/L | | | 10/12/15 12:56 | 5 |
| Chloroethane | <13 | | 25 | 13 | ug/L | | | 10/12/15 12:56 | 5 |
| Trichlorofluoromethane | <2.1 | | 5.0 | 2.1 | ug/L | | | 10/12/15 12:56 | 5 |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

**Client Sample ID: MW-24R**
**Date Collected: 10/01/15 16:08**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-10**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/12/15 12:56 | 5 |
| Acetone | <35 | | 50 | 35 | ug/L | | | 10/12/15 12:56 | 5 |
| Carbon disulfide | <5.0 | | 10 | 5.0 | ug/L | | | 10/12/15 12:56 | 5 |
| Methyl acetate | <9.0 | | 25 | 9.0 | ug/L | | | 10/12/15 12:56 | 5 |
| Methylene Chloride | <13 | | 25 | 13 | ug/L | | | 10/12/15 12:56 | 5 |
| **trans-1,2-Dichloroethene** | **1.9** | **J** | 5.0 | 1.9 | ug/L | | | 10/12/15 12:56 | 5 |
| **Methyl tert-butyl ether** | **140** | | 50 | 1.5 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,1-Dichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 10/12/15 12:56 | 5 |
| **cis-1,2-Dichloroethene** | **360** | | 5.0 | 2.1 | ug/L | | | 10/12/15 12:56 | 5 |
| 2-Butanone | <17 | | 50 | 17 | ug/L | | | 10/12/15 12:56 | 5 |
| Chloroform | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,1,1-Trichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 10/12/15 12:56 | 5 |
| Cyclohexane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/12/15 12:56 | 5 |
| Carbon tetrachloride | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/12/15 12:56 | 5 |
| **Benzene** | **4.4** | **J** | 5.0 | 2.2 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,2-Dichloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 12:56 | 5 |
| Trichloroethene | <2.4 | | 5.0 | 2.4 | ug/L | | | 10/12/15 12:56 | 5 |
| Methylcyclohexane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,2-Dichloropropane | <3.4 | | 5.0 | 3.4 | ug/L | | | 10/12/15 12:56 | 5 |
| Bromodichloromethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/12/15 12:56 | 5 |
| cis-1,3-Dichloropropene | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/12/15 12:56 | 5 |
| 4-Methyl-2-pentanone | <11 | | 50 | 11 | ug/L | | | 10/12/15 12:56 | 5 |
| Toluene | <2.4 | | 5.0 | 2.4 | ug/L | | | 10/12/15 12:56 | 5 |
| trans-1,3-Dichloropropene | <2.1 | | 5.0 | 2.1 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,1,2-Trichloroethane | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/12/15 12:56 | 5 |
| Tetrachloroethene | <3.7 | | 5.0 | 3.7 | ug/L | | | 10/12/15 12:56 | 5 |
| 2-Hexanone | <10 | | 50 | 10 | ug/L | | | 10/12/15 12:56 | 5 |
| Dibromochloromethane | <1.6 | | 5.0 | 1.6 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,2-Dibromoethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/12/15 12:56 | 5 |
| Chlorobenzene | <1.3 | | 5.0 | 1.3 | ug/L | | | 10/12/15 12:56 | 5 |
| Ethylbenzene | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/12/15 12:56 | 5 |
| Xylenes, Total | <1.2 | | 5.0 | 1.2 | ug/L | | | 10/12/15 12:56 | 5 |
| Styrene | <1.4 | | 5.0 | 1.4 | ug/L | | | 10/12/15 12:56 | 5 |
| Bromoform | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/12/15 12:56 | 5 |
| Isopropylbenzene | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,1,2,2-Tetrachloroethane | <3.1 | | 5.0 | 3.1 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,3-Dichlorobenzene | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,4-Dichlorobenzene | <2.3 | | 5.0 | 2.3 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,2-Dichlorobenzene | <1.9 | | 5.0 | 1.9 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,2-Dibromo-3-Chloropropane | <5.5 | | 25 | 5.5 | ug/L | | | 10/12/15 12:56 | 5 |
| 1,2,4-Trichlorobenzene | <13 | | 25 | 13 | ug/L | | | 10/12/15 12:56 | 5 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *109* | | *70 - 130* | | *10/12/15 12:56* | *5* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* | | *10/12/15 12:56* | *5* |
| *Dibromofluoromethane (Surr)* | *109* | | *70 - 130* | | *10/12/15 12:56* | *5* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *10/12/15 12:56* | *5* |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

**Client Sample ID: MW-25**
**Date Collected: 09/28/15 18:04**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-11**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/09/15 16:49 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 16:49 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 16:49 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 16:49 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 16:49 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 16:49 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/09/15 16:49 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/09/15 16:49 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/09/15 16:49 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 16:49 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 16:49 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/09/15 16:49 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/09/15 16:49 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/09/15 16:49 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 16:49 | 1 |
| **Cyclohexane** | **0.72** | **J** | 1.0 | 0.39 | ug/L | | | 10/09/15 16:49 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 16:49 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 16:49 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/09/15 16:49 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/09/15 16:49 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 16:49 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 16:49 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/09/15 16:49 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/09/15 16:49 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 16:49 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/09/15 16:49 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/09/15 16:49 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 16:49 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/09/15 16:49 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 16:49 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/09/15 16:49 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/09/15 16:49 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 16:49 | 1 |
| **Isopropylbenzene** | **1.2** | | 1.0 | 0.35 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/09/15 16:49 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 16:49 | 1 |

## Client Sample ID: MW-25

**Date Collected: 09/28/15 18:04**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-11**
**Matrix: Water**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *10/09/15 16:49* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *105* | | *70 - 130* | | *10/09/15 16:49* | *1* |
| *Dibromofluoromethane (Surr)* | *106* | | *70 - 130* | | *10/09/15 16:49* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/09/15 16:49* | *1* |

## Client Sample ID: MW-26R

**Date Collected: 10/01/15 10:05**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-12**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <3.0 | | 5.0 | 3.0 | ug/L | | | 10/14/15 14:15 | 5 |
| Chloromethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/14/15 14:15 | 5 |
| Vinyl chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/14/15 14:15 | 5 |
| Bromomethane | <13 | | 25 | 13 | ug/L | | | 10/14/15 14:15 | 5 |
| Chloroethane | <13 | | 25 | 13 | ug/L | | | 10/14/15 14:15 | 5 |
| Trichlorofluoromethane | <2.1 | | 5.0 | 2.1 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,1-Dichloroethene | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/14/15 14:15 | 5 |
| Acetone | <35 | | 50 | 35 | ug/L | | | 10/14/15 14:15 | 5 |
| Carbon disulfide | <5.0 | | 10 | 5.0 | ug/L | | | 10/14/15 14:15 | 5 |
| Methyl acetate | <9.0 | | 25 | 9.0 | ug/L | | | 10/14/15 14:15 | 5 |
| Methylene Chloride | <13 | | 25 | 13 | ug/L | | | 10/14/15 14:15 | 5 |
| trans-1,2-Dichloroethene | <1.9 | | 5.0 | 1.9 | ug/L | | | 10/14/15 14:15 | 5 |
| Methyl tert-butyl ether | <1.5 | | 50 | 1.5 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,1-Dichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 10/14/15 14:15 | 5 |
| **cis-1,2-Dichloroethene** | **2.4** | **J** | 5.0 | 2.1 | ug/L | | | 10/14/15 14:15 | 5 |
| 2-Butanone | <17 | | 50 | 17 | ug/L | | | 10/14/15 14:15 | 5 |
| Chloroform | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,1,1-Trichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 10/14/15 14:15 | 5 |
| Cyclohexane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/14/15 14:15 | 5 |
| Carbon tetrachloride | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/14/15 14:15 | 5 |
| **Benzene** | **37** | | 5.0 | 2.2 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,2-Dichloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/14/15 14:15 | 5 |
| Trichloroethene | <2.4 | | 5.0 | 2.4 | ug/L | | | 10/14/15 14:15 | 5 |
| Methylcyclohexane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,2-Dichloropropane | <3.4 | | 5.0 | 3.4 | ug/L | | | 10/14/15 14:15 | 5 |
| Bromodichloromethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/14/15 14:15 | 5 |
| cis-1,3-Dichloropropene | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/14/15 14:15 | 5 |
| 4-Methyl-2-pentanone | <11 | | 50 | 11 | ug/L | | | 10/14/15 14:15 | 5 |
| Toluene | <2.4 | | 5.0 | 2.4 | ug/L | | | 10/14/15 14:15 | 5 |
| trans-1,3-Dichloropropene | <2.1 | | 5.0 | 2.1 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,1,2-Trichloroethane | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/14/15 14:15 | 5 |
| Tetrachloroethene | <3.7 | | 5.0 | 3.7 | ug/L | | | 10/14/15 14:15 | 5 |
| 2-Hexanone | <10 | | 50 | 10 | ug/L | | | 10/14/15 14:15 | 5 |
| Dibromochloromethane | <1.6 | | 5.0 | 1.6 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,2-Dibromoethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/14/15 14:15 | 5 |
| **Chlorobenzene** | **100** | | 5.0 | 1.3 | ug/L | | | 10/14/15 14:15 | 5 |
| **Ethylbenzene** | **18** | | 5.0 | 1.7 | ug/L | | | 10/14/15 14:15 | 5 |
| **Xylenes, Total** | **350** | | 5.0 | 1.2 | ug/L | | | 10/14/15 14:15 | 5 |

## Client Sample ID: MW-26R

**Date Collected: 10/01/15 10:05**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-12**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <1.4 | | 5.0 | 1.4 | ug/L | | | 10/14/15 14:15 | 5 |
| Bromoform | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/14/15 14:15 | 5 |
| **Isopropylbenzene** | **2.6** | **J** | 5.0 | 1.8 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,1,2,2-Tetrachloroethane | <3.1 | | 5.0 | 3.1 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,3-Dichlorobenzene | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,4-Dichlorobenzene | <2.3 | | 5.0 | 2.3 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,2-Dichlorobenzene | <1.9 | | 5.0 | 1.9 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,2-Dibromo-3-Chloropropane | <5.5 | | 25 | 5.5 | ug/L | | | 10/14/15 14:15 | 5 |
| 1,2,4-Trichlorobenzene | <13 | | 25 | 13 | ug/L | | | 10/14/15 14:15 | 5 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* | | *10/14/15 14:15* | *5* |
| *1,2-Dichloroethane-d4 (Surr)* | *127* | | *70 - 130* | | *10/14/15 14:15* | *5* |
| *Dibromofluoromethane (Surr)* | *120* | | *70 - 130* | | *10/14/15 14:15* | *5* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/14/15 14:15* | *5* |

## Client Sample ID: MW-27

**Date Collected: 09/28/15 11:31**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-13**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/09/15 17:10 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 17:10 | 1 |
| **Vinyl chloride** | **30** | | 1.0 | 0.50 | ug/L | | | 10/09/15 17:10 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 17:10 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 17:10 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 17:10 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 17:10 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 17:10 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/09/15 17:10 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/09/15 17:10 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/09/15 17:10 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 17:10 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 17:10 | 1 |
| **Methyl tert-butyl ether** | **3.9** | **J** | 10 | 0.30 | ug/L | | | 10/09/15 17:10 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/09/15 17:10 | 1 |
| **cis-1,2-Dichloroethene** | **10** | | 1.0 | 0.41 | ug/L | | | 10/09/15 17:10 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/09/15 17:10 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 17:10 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 17:10 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/09/15 17:10 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 17:10 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 17:10 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 17:10 | 1 |
| **Trichloroethene** | **0.62** | **J** | 1.0 | 0.48 | ug/L | | | 10/09/15 17:10 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 17:10 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/09/15 17:10 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 17:10 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 17:10 | 1 |

## Client Sample ID: MW-27

**Date Collected: 09/28/15 11:31**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-13**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/09/15 17:10 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/09/15 17:10 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 17:10 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 17:10 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/09/15 17:10 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/09/15 17:10 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/09/15 17:10 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 17:10 | 1 |
| **Chlorobenzene** | **34** | | 1.0 | 0.26 | ug/L | | | 10/09/15 17:10 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 17:10 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/09/15 17:10 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/09/15 17:10 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 17:10 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/09/15 17:10 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/09/15 17:10 | 1 |
| **1,3-Dichlorobenzene** | **3.2** | | 1.0 | 0.43 | ug/L | | | 10/09/15 17:10 | 1 |
| **1,4-Dichlorobenzene** | **2.3** | | 1.0 | 0.46 | ug/L | | | 10/09/15 17:10 | 1 |
| **1,2-Dichlorobenzene** | **0.48** | **J** | 1.0 | 0.37 | ug/L | | | 10/09/15 17:10 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/09/15 17:10 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 17:10 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *10/09/15 17:10* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* | | *10/09/15 17:10* | *1* |
| *Dibromofluoromethane (Surr)* | *108* | | *70 - 130* | | *10/09/15 17:10* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/09/15 17:10* | *1* |

## Client Sample ID: MW-28

**Date Collected: 09/29/15 11:21**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-14**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <1.2 | | 2.0 | 1.2 | ug/L | | | 10/12/15 14:06 | 2 |
| Chloromethane | <0.80 | | 2.0 | 0.80 | ug/L | | | 10/12/15 14:06 | 2 |
| **Vinyl chloride** | **80** | | 2.0 | 1.0 | ug/L | | | 10/12/15 14:06 | 2 |
| Bromomethane | <5.0 | | 10 | 5.0 | ug/L | | | 10/12/15 14:06 | 2 |
| Chloroethane | <5.0 | | 10 | 5.0 | ug/L | | | 10/12/15 14:06 | 2 |
| Trichlorofluoromethane | <0.84 | | 2.0 | 0.84 | ug/L | | | 10/12/15 14:06 | 2 |
| **1,1-Dichloroethene** | **0.91** | **J** | 2.0 | 0.72 | ug/L | | | 10/12/15 14:06 | 2 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.72 | | 2.0 | 0.72 | ug/L | | | 10/12/15 14:06 | 2 |
| Acetone | <14 | | 20 | 14 | ug/L | | | 10/12/15 14:06 | 2 |
| Carbon disulfide | <2.0 | | 4.0 | 2.0 | ug/L | | | 10/12/15 14:06 | 2 |
| Methyl acetate | <3.6 | | 10 | 3.6 | ug/L | | | 10/12/15 14:06 | 2 |
| Methylene Chloride | <5.0 | | 10 | 5.0 | ug/L | | | 10/12/15 14:06 | 2 |
| **trans-1,2-Dichloroethene** | **0.97** | **J** | 2.0 | 0.74 | ug/L | | | 10/12/15 14:06 | 2 |
| Methyl tert-butyl ether | <0.60 | | 20 | 0.60 | ug/L | | | 10/12/15 14:06 | 2 |
| 1,1-Dichloroethane | <0.76 | | 2.0 | 0.76 | ug/L | | | 10/12/15 14:06 | 2 |
| **cis-1,2-Dichloroethene** | **220** | | 2.0 | 0.82 | ug/L | | | 10/12/15 14:06 | 2 |
| 2-Butanone | <6.8 | | 20 | 6.8 | ug/L | | | 10/12/15 14:06 | 2 |

## Client Sample ID: MW-28
**Date Collected: 09/29/15 11:21**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-14
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/12/15 14:06 | 2 |
| 1,1,1-Trichloroethane | <0.74 | | 2.0 | 0.74 | ug/L | | | 10/12/15 14:06 | 2 |
| Cyclohexane | <0.78 | | 2.0 | 0.78 | ug/L | | | 10/12/15 14:06 | 2 |
| Carbon tetrachloride | <0.66 | | 2.0 | 0.66 | ug/L | | | 10/12/15 14:06 | 2 |
| **Benzene** | **10** | | 2.0 | 0.86 | ug/L | | | 10/12/15 14:06 | 2 |
| 1,2-Dichloroethane | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/12/15 14:06 | 2 |
| **Trichloroethene** | **6.9** | | 2.0 | 0.96 | ug/L | | | 10/12/15 14:06 | 2 |
| Methylcyclohexane | <0.86 | | 2.0 | 0.86 | ug/L | | | 10/12/15 14:06 | 2 |
| 1,2-Dichloropropane | <1.3 | | 2.0 | 1.3 | ug/L | | | 10/12/15 14:06 | 2 |
| Bromodichloromethane | <0.88 | | 2.0 | 0.88 | ug/L | | | 10/12/15 14:06 | 2 |
| cis-1,3-Dichloropropene | <0.80 | | 2.0 | 0.80 | ug/L | | | 10/12/15 14:06 | 2 |
| 4-Methyl-2-pentanone | <4.2 | | 20 | 4.2 | ug/L | | | 10/12/15 14:06 | 2 |
| Toluene | <0.96 | | 2.0 | 0.96 | ug/L | | | 10/12/15 14:06 | 2 |
| trans-1,3-Dichloropropene | <0.84 | | 2.0 | 0.84 | ug/L | | | 10/12/15 14:06 | 2 |
| 1,1,2-Trichloroethane | <0.66 | | 2.0 | 0.66 | ug/L | | | 10/12/15 14:06 | 2 |
| **Tetrachloroethene** | **32** | | 2.0 | 1.5 | ug/L | | | 10/12/15 14:06 | 2 |
| 2-Hexanone | <4.0 | | 20 | 4.0 | ug/L | | | 10/12/15 14:06 | 2 |
| Dibromochloromethane | <0.64 | | 2.0 | 0.64 | ug/L | | | 10/12/15 14:06 | 2 |
| 1,2-Dibromoethane | <0.88 | | 2.0 | 0.88 | ug/L | | | 10/12/15 14:06 | 2 |
| **Chlorobenzene** | **67** | | 2.0 | 0.52 | ug/L | | | 10/12/15 14:06 | 2 |
| Ethylbenzene | <0.66 | | 2.0 | 0.66 | ug/L | | | 10/12/15 14:06 | 2 |
| **Xylenes, Total** | **1.6** | **J** | 2.0 | 0.46 | ug/L | | | 10/12/15 14:06 | 2 |
| Styrene | <0.54 | | 2.0 | 0.54 | ug/L | | | 10/12/15 14:06 | 2 |
| Bromoform | <0.86 | | 2.0 | 0.86 | ug/L | | | 10/12/15 14:06 | 2 |
| Isopropylbenzene | <0.70 | | 2.0 | 0.70 | ug/L | | | 10/12/15 14:06 | 2 |
| 1,1,2,2-Tetrachloroethane | <1.2 | | 2.0 | 1.2 | ug/L | | | 10/12/15 14:06 | 2 |
| **1,3-Dichlorobenzene** | **2.7** | | 2.0 | 0.86 | ug/L | | | 10/12/15 14:06 | 2 |
| **1,4-Dichlorobenzene** | **19** | | 2.0 | 0.92 | ug/L | | | 10/12/15 14:06 | 2 |
| **1,2-Dichlorobenzene** | **4.6** | | 2.0 | 0.74 | ug/L | | | 10/12/15 14:06 | 2 |
| 1,2-Dibromo-3-Chloropropane | <2.2 | | 10 | 2.2 | ug/L | | | 10/12/15 14:06 | 2 |
| **1,2,4-Trichlorobenzene** | **21** | | 10 | 5.0 | ug/L | | | 10/12/15 14:06 | 2 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *108* | | *70 - 130* | | *10/12/15 14:06* | *2* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 130* | | *10/12/15 14:06* | *2* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *10/12/15 14:06* | *2* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/12/15 14:06* | *2* |

## Client Sample ID: MW-29
**Date Collected: 10/01/15 17:22**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-15
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <60 | | 100 | 60 | ug/L | | | 10/14/15 14:18 | 100 |
| Chloromethane | <40 | | 100 | 40 | ug/L | | | 10/14/15 14:18 | 100 |
| **Vinyl chloride** | **1000** | | 100 | 50 | ug/L | | | 10/14/15 14:18 | 100 |
| Bromomethane | <250 | | 500 | 250 | ug/L | | | 10/14/15 14:18 | 100 |
| Chloroethane | <250 | | 500 | 250 | ug/L | | | 10/14/15 14:18 | 100 |
| Trichlorofluoromethane | <42 | | 100 | 42 | ug/L | | | 10/14/15 14:18 | 100 |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

**Client Sample ID: MW-29**
**Date Collected: 10/01/15 17:22**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-15**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <36 | | 100 | 36 | ug/L | | | 10/14/15 14:18 | 100 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <36 | | 100 | 36 | ug/L | | | 10/14/15 14:18 | 100 |
| Acetone | <700 | | 1000 | 700 | ug/L | | | 10/14/15 14:18 | 100 |
| Carbon disulfide | <100 | | 200 | 100 | ug/L | | | 10/14/15 14:18 | 100 |
| Methyl acetate | <180 | | 500 | 180 | ug/L | | | 10/14/15 14:18 | 100 |
| Methylene Chloride | <250 | | 500 | 250 | ug/L | | | 10/14/15 14:18 | 100 |
| trans-1,2-Dichloroethene | <37 | | 100 | 37 | ug/L | | | 10/14/15 14:18 | 100 |
| Methyl tert-butyl ether | <30 | | 1000 | 30 | ug/L | | | 10/14/15 14:18 | 100 |
| 1,1-Dichloroethane | <38 | | 100 | 38 | ug/L | | | 10/14/15 14:18 | 100 |
| **cis-1,2-Dichloroethene** | **9000** | | 100 | 41 | ug/L | | | 10/14/15 14:18 | 100 |
| 2-Butanone | <340 | | 1000 | 340 | ug/L | | | 10/14/15 14:18 | 100 |
| Chloroform | <50 | | 100 | 50 | ug/L | | | 10/14/15 14:18 | 100 |
| 1,1,1-Trichloroethane | <37 | | 100 | 37 | ug/L | | | 10/14/15 14:18 | 100 |
| Cyclohexane | <39 | | 100 | 39 | ug/L | | | 10/14/15 14:18 | 100 |
| Carbon tetrachloride | <33 | | 100 | 33 | ug/L | | | 10/14/15 14:18 | 100 |
| Benzene | <43 | | 100 | 43 | ug/L | | | 10/14/15 14:18 | 100 |
| 1,2-Dichloroethane | <50 | | 100 | 50 | ug/L | | | 10/14/15 14:18 | 100 |
| **Trichloroethene** | **130** | | 100 | 48 | ug/L | | | 10/14/15 14:18 | 100 |
| Methylcyclohexane | <43 | | 100 | 43 | ug/L | | | 10/14/15 14:18 | 100 |
| 1,2-Dichloropropane | <67 | | 100 | 67 | ug/L | | | 10/14/15 14:18 | 100 |
| Bromodichloromethane | <44 | | 100 | 44 | ug/L | | | 10/14/15 14:18 | 100 |
| cis-1,3-Dichloropropene | <40 | | 100 | 40 | ug/L | | | 10/14/15 14:18 | 100 |
| 4-Methyl-2-pentanone | <210 | | 1000 | 210 | ug/L | | | 10/14/15 14:18 | 100 |
| Toluene | <48 | | 100 | 48 | ug/L | | | 10/14/15 14:18 | 100 |
| trans-1,3-Dichloropropene | <42 | | 100 | 42 | ug/L | | | 10/14/15 14:18 | 100 |
| 1,1,2-Trichloroethane | <33 | | 100 | 33 | ug/L | | | 10/14/15 14:18 | 100 |
| **Tetrachloroethene** | **110** | | 100 | 74 | ug/L | | | 10/14/15 14:18 | 100 |
| 2-Hexanone | <200 | | 1000 | 200 | ug/L | | | 10/14/15 14:18 | 100 |
| Dibromochloromethane | <32 | | 100 | 32 | ug/L | | | 10/14/15 14:18 | 100 |
| 1,2-Dibromoethane | <44 | | 100 | 44 | ug/L | | | 10/14/15 14:18 | 100 |
| **Chlorobenzene** | **190** | | 100 | 26 | ug/L | | | 10/14/15 14:18 | 100 |
| **Ethylbenzene** | **1700** | | 100 | 33 | ug/L | | | 10/14/15 14:18 | 100 |
| **Xylenes, Total** | **4700** | | 100 | 23 | ug/L | | | 10/14/15 14:18 | 100 |
| Styrene | <27 | | 100 | 27 | ug/L | | | 10/14/15 14:18 | 100 |
| Bromoform | <43 | | 100 | 43 | ug/L | | | 10/14/15 14:18 | 100 |
| **Isopropylbenzene** | **49** | **J** | 100 | 35 | ug/L | | | 10/14/15 14:18 | 100 |
| 1,1,2,2-Tetrachloroethane | <62 | | 100 | 62 | ug/L | | | 10/14/15 14:18 | 100 |
| **1,3-Dichlorobenzene** | **55** | **J** | 100 | 43 | ug/L | | | 10/14/15 14:18 | 100 |
| **1,4-Dichlorobenzene** | **190** | | 100 | 46 | ug/L | | | 10/14/15 14:18 | 100 |
| **1,2-Dichlorobenzene** | **39** | **J** | 100 | 37 | ug/L | | | 10/14/15 14:18 | 100 |
| 1,2-Dibromo-3-Chloropropane | <110 | | 500 | 110 | ug/L | | | 10/14/15 14:18 | 100 |
| 1,2,4-Trichlorobenzene | <250 | | 500 | 250 | ug/L | | | 10/14/15 14:18 | 100 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *10/14/15 14:18* | *100* |
| *1,2-Dichloroethane-d4 (Surr)* | *101* | | *70 - 130* | | *10/14/15 14:18* | *100* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *10/14/15 14:18* | *100* |
| *4-Bromofluorobenzene (Surr)* | *108* | | *70 - 130* | | *10/14/15 14:18* | *100* |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

**Client Sample ID: MW-30**
**Date Collected: 09/29/15 17:45**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-16**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/12/15 14:29 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/12/15 14:29 | 1 |
| **Vinyl chloride** | **2.0** | | 1.0 | 0.50 | ug/L | | | 10/12/15 14:29 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 14:29 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 14:29 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 14:29 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/12/15 14:29 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/12/15 14:29 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/12/15 14:29 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 14:29 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 14:29 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/12/15 14:29 | 1 |
| **cis-1,2-Dichloroethene** | **1.7** | | 1.0 | 0.41 | ug/L | | | 10/12/15 14:29 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/12/15 14:29 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 14:29 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/12/15 14:29 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 14:29 | 1 |
| **Benzene** | **0.43** | **J** | 1.0 | 0.43 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 14:29 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 14:29 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/12/15 14:29 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 14:29 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/12/15 14:29 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/12/15 14:29 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 14:29 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 14:29 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/12/15 14:29 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/12/15 14:29 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 14:29 | 1 |
| **Chlorobenzene** | **0.90** | **J** | 1.0 | 0.26 | ug/L | | | 10/12/15 14:29 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 14:29 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/12/15 14:29 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/12/15 14:29 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 14:29 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/12/15 14:29 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 14:29 | 1 |

## Client Sample ID: MW-30

**Date Collected: 09/29/15 17:45**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-16**
**Matrix: Water**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *108* | | *70 - 130* | | *10/12/15 14:29* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* | | *10/12/15 14:29* | *1* |
| *Dibromofluoromethane (Surr)* | *101* | | *70 - 130* | | *10/12/15 14:29* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *10/12/15 14:29* | *1* |

## Client Sample ID: MW-31

**Date Collected: 09/28/15 13:31**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-17**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/09/15 17:32 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 17:32 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 17:32 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 17:32 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 17:32 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 17:32 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/09/15 17:32 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/09/15 17:32 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/09/15 17:32 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 17:32 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 17:32 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/09/15 17:32 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/09/15 17:32 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/09/15 17:32 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 17:32 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/09/15 17:32 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 17:32 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 17:32 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/09/15 17:32 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/09/15 17:32 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 17:32 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 17:32 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/09/15 17:32 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/09/15 17:32 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 17:32 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/09/15 17:32 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/09/15 17:32 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 17:32 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/09/15 17:32 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 17:32 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/09/15 17:32 | 1 |

## Client Sample ID: MW-31

**Date Collected: 09/28/15 13:31**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-17**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/09/15 17:32 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 17:32 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/09/15 17:32 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 17:32 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *104* | | *70 - 130* | | *10/09/15 17:32* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *110* | | *70 - 130* | | *10/09/15 17:32* | *1* |
| *Dibromofluoromethane (Surr)* | *110* | | *70 - 130* | | *10/09/15 17:32* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *10/09/15 17:32* | *1* |

## Client Sample ID: MW-32

**Date Collected: 09/30/15 11:02**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-18**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/13/15 10:30 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/13/15 10:30 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/13/15 10:30 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 10:30 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 10:30 | 1 |
| **Trichlorofluoromethane** | **5.7** | | 1.0 | 0.42 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/13/15 10:30 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/13/15 10:30 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/13/15 10:30 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/13/15 10:30 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 10:30 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/13/15 10:30 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/13/15 10:30 | 1 |
| **cis-1,2-Dichloroethene** | **0.81** | **J** | 1.0 | 0.41 | ug/L | | | 10/13/15 10:30 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/13/15 10:30 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/13/15 10:30 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/13/15 10:30 | 1 |
| Carbon tetrachloride | <0.33 | * | 1.0 | 0.33 | ug/L | | | 10/13/15 10:30 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/13/15 10:30 | 1 |
| **Trichloroethene** | **0.49** | **J** | 1.0 | 0.48 | ug/L | | | 10/13/15 10:30 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/13/15 10:30 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/13/15 10:30 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/13/15 10:30 | 1 |

## Client Sample ID: MW-32

**Lab Sample ID: 680-117408-18**

**Date Collected: 09/30/15 11:02**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/13/15 10:30 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/13/15 10:30 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/13/15 10:30 | 1 |
| **Tetrachloroethene** | **1.3** | | 1.0 | 0.74 | ug/L | | | 10/13/15 10:30 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/13/15 10:30 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/13/15 10:30 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/13/15 10:30 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/13/15 10:30 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/13/15 10:30 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/13/15 10:30 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 10:30 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/13/15 10:30 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 10:30 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *10/13/15 10:30* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *111* | | *70 - 130* | | *10/13/15 10:30* | *1* |
| *Dibromofluoromethane (Surr)* | *109* | | *70 - 130* | | *10/13/15 10:30* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *10/13/15 10:30* | *1* |

## Client Sample ID: MW-33

**Lab Sample ID: 680-117408-19**

**Date Collected: 10/01/15 18:05**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <3.0 | | 5.0 | 3.0 | ug/L | | | 10/13/15 15:51 | 5 |
| Chloromethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/13/15 15:51 | 5 |
| **Vinyl chloride** | **170** | | 5.0 | 2.5 | ug/L | | | 10/13/15 15:51 | 5 |
| Bromomethane | <13 | | 25 | 13 | ug/L | | | 10/13/15 15:51 | 5 |
| Chloroethane | <13 | | 25 | 13 | ug/L | | | 10/13/15 15:51 | 5 |
| Trichlorofluoromethane | <2.1 | | 5.0 | 2.1 | ug/L | | | 10/13/15 15:51 | 5 |
| 1,1-Dichloroethene | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/13/15 15:51 | 5 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/13/15 15:51 | 5 |
| Acetone | <35 | | 50 | 35 | ug/L | | | 10/13/15 15:51 | 5 |
| Carbon disulfide | <5.0 | | 10 | 5.0 | ug/L | | | 10/13/15 15:51 | 5 |
| Methyl acetate | <9.0 | | 25 | 9.0 | ug/L | | | 10/13/15 15:51 | 5 |
| Methylene Chloride | <13 | | 25 | 13 | ug/L | | | 10/13/15 15:51 | 5 |
| **trans-1,2-Dichloroethene** | **3.3** | **J** | 5.0 | 1.9 | ug/L | | | 10/13/15 15:51 | 5 |
| Methyl tert-butyl ether | <1.5 | | 50 | 1.5 | ug/L | | | 10/13/15 15:51 | 5 |
| 1,1-Dichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 10/13/15 15:51 | 5 |
| **cis-1,2-Dichloroethene** | **260** | | 5.0 | 2.1 | ug/L | | | 10/13/15 15:51 | 5 |
| 2-Butanone | <17 | | 50 | 17 | ug/L | | | 10/13/15 15:51 | 5 |

## Client Sample ID: MW-33

**Lab Sample ID: 680-117408-19**

**Date Collected: 10/01/15 18:05**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 15:51 | 5 |
| 1,1,1-Trichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 10/13/15 15:51 | 5 |
| Cyclohexane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/13/15 15:51 | 5 |
| Carbon tetrachloride | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/13/15 15:51 | 5 |
| Benzene | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/13/15 15:51 | 5 |
| 1,2-Dichloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 15:51 | 5 |
| **Trichloroethene** | **48** | | 5.0 | 2.4 | ug/L | | | 10/13/15 15:51 | 5 |
| Methylcyclohexane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/13/15 15:51 | 5 |
| 1,2-Dichloropropane | <3.4 | | 5.0 | 3.4 | ug/L | | | 10/13/15 15:51 | 5 |
| Bromodichloromethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/13/15 15:51 | 5 |
| cis-1,3-Dichloropropene | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/13/15 15:51 | 5 |
| 4-Methyl-2-pentanone | <11 | | 50 | 11 | ug/L | | | 10/13/15 15:51 | 5 |
| Toluene | <2.4 | | 5.0 | 2.4 | ug/L | | | 10/13/15 15:51 | 5 |
| trans-1,3-Dichloropropene | <2.1 | | 5.0 | 2.1 | ug/L | | | 10/13/15 15:51 | 5 |
| 1,1,2-Trichloroethane | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/13/15 15:51 | 5 |
| **Tetrachloroethene** | **5.0** | | 5.0 | 3.7 | ug/L | | | 10/13/15 15:51 | 5 |
| 2-Hexanone | <10 | | 50 | 10 | ug/L | | | 10/13/15 15:51 | 5 |
| Dibromochloromethane | <1.6 | | 5.0 | 1.6 | ug/L | | | 10/13/15 15:51 | 5 |
| 1,2-Dibromoethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/13/15 15:51 | 5 |
| **Chlorobenzene** | **70** | | 5.0 | 1.3 | ug/L | | | 10/13/15 15:51 | 5 |
| **Ethylbenzene** | **4.6** | **J** | 5.0 | 1.7 | ug/L | | | 10/13/15 15:51 | 5 |
| **Xylenes, Total** | **19** | | 5.0 | 1.2 | ug/L | | | 10/13/15 15:51 | 5 |
| Styrene | <1.4 | | 5.0 | 1.4 | ug/L | | | 10/13/15 15:51 | 5 |
| Bromoform | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/13/15 15:51 | 5 |
| Isopropylbenzene | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/13/15 15:51 | 5 |
| 1,1,2,2-Tetrachloroethane | <3.1 | | 5.0 | 3.1 | ug/L | | | 10/13/15 15:51 | 5 |
| **1,3-Dichlorobenzene** | **26** | | 5.0 | 2.2 | ug/L | | | 10/13/15 15:51 | 5 |
| **1,4-Dichlorobenzene** | **110** | | 5.0 | 2.3 | ug/L | | | 10/13/15 15:51 | 5 |
| **1,2-Dichlorobenzene** | **10** | | 5.0 | 1.9 | ug/L | | | 10/13/15 15:51 | 5 |
| 1,2-Dibromo-3-Chloropropane | <5.5 | | 25 | 5.5 | ug/L | | | 10/13/15 15:51 | 5 |
| **1,2,4-Trichlorobenzene** | **23** | **J** | 25 | 13 | ug/L | | | 10/13/15 15:51 | 5 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *90* | | *70 - 130* | | *10/13/15 15:51* | *5* |
| *1,2-Dichloroethane-d4 (Surr)* | *106* | | *70 - 130* | | *10/13/15 15:51* | *5* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* | | *10/13/15 15:51* | *5* |
| *4-Bromofluorobenzene (Surr)* | *85* | | *70 - 130* | | *10/13/15 15:51* | *5* |

## Client Sample ID: MW-34

**Lab Sample ID: 680-117408-20**

**Date Collected: 09/29/15 12:00**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/10/15 14:46 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/10/15 14:46 | 1 |
| **Vinyl chloride** | **4.4** | | 1.0 | 0.50 | ug/L | | | 10/10/15 14:46 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 14:46 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 14:46 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/10/15 14:46 | 1 |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

**Client Sample ID: MW-34**
**Date Collected: 09/29/15 12:00**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-20**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/10/15 14:46 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/10/15 14:46 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/10/15 14:46 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/10/15 14:46 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/10/15 14:46 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 14:46 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 14:46 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/10/15 14:46 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/10/15 14:46 | 1 |
| **cis-1,2-Dichloroethene** | **16** | | 1.0 | 0.41 | ug/L | | | 10/10/15 14:46 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/10/15 14:46 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 14:46 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 14:46 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/10/15 14:46 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 14:46 | 1 |
| **Benzene** | **1.3** | | 1.0 | 0.43 | ug/L | | | 10/10/15 14:46 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 14:46 | 1 |
| **Trichloroethene** | **0.86** | **J** | 1.0 | 0.48 | ug/L | | | 10/10/15 14:46 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 14:46 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/10/15 14:46 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/10/15 14:46 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/10/15 14:46 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/10/15 14:46 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/10/15 14:46 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/10/15 14:46 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 14:46 | 1 |
| **Tetrachloroethene** | **4.2** | | 1.0 | 0.74 | ug/L | | | 10/10/15 14:46 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/10/15 14:46 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/10/15 14:46 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/10/15 14:46 | 1 |
| **Chlorobenzene** | **4.2** | | 1.0 | 0.26 | ug/L | | | 10/10/15 14:46 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 14:46 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/10/15 14:46 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/10/15 14:46 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 14:46 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/10/15 14:46 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/10/15 14:46 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 14:46 | 1 |
| **1,4-Dichlorobenzene** | **1.1** | | 1.0 | 0.46 | ug/L | | | 10/10/15 14:46 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 14:46 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/10/15 14:46 | 1 |
| **1,2,4-Trichlorobenzene** | **2.7** | **J** | 5.0 | 2.5 | ug/L | | | 10/10/15 14:46 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *10/10/15 14:46* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *109* | | *70 - 130* | | *10/10/15 14:46* | *1* |
| *Dibromofluoromethane (Surr)* | *107* | | *70 - 130* | | *10/10/15 14:46* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *10/10/15 14:46* | *1* |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

**Client Sample ID: MW-35**
**Date Collected: 09/29/15 15:15**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-21**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/10/15 15:08 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/10/15 15:08 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 15:08 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 15:08 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 15:08 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/10/15 15:08 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/10/15 15:08 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/10/15 15:08 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/10/15 15:08 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 15:08 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 15:08 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/10/15 15:08 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/10/15 15:08 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/10/15 15:08 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 15:08 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/10/15 15:08 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 15:08 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 15:08 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/10/15 15:08 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/10/15 15:08 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/10/15 15:08 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/10/15 15:08 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/10/15 15:08 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/10/15 15:08 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 15:08 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/10/15 15:08 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/10/15 15:08 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/10/15 15:08 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/10/15 15:08 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 15:08 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/10/15 15:08 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/10/15 15:08 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 15:08 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/10/15 15:08 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 15:08 | 1 |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Client Sample ID: MW-35

**Date Collected: 09/29/15 15:15**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-21**
**Matrix: Water**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *10/10/15 15:08* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *110* | | *70 - 130* | | *10/10/15 15:08* | *1* |
| *Dibromofluoromethane (Surr)* | *108* | | *70 - 130* | | *10/10/15 15:08* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *10/10/15 15:08* | *1* |

## Client Sample ID: MW-36

**Date Collected: 09/30/15 09:01**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-22**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/12/15 14:54 | 1 |
| Chloromethane | <0.40 | * | 1.0 | 0.40 | ug/L | | | 10/12/15 14:54 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 14:54 | 1 |
| Bromomethane | <2.5 | * | 5.0 | 2.5 | ug/L | | | 10/12/15 14:54 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 14:54 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 14:54 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/12/15 14:54 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/12/15 14:54 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/12/15 14:54 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 14:54 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 14:54 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/12/15 14:54 | 1 |
| **cis-1,2-Dichloroethene** | **0.81** | **J** | 1.0 | 0.41 | ug/L | | | 10/12/15 14:54 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/12/15 14:54 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 14:54 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/12/15 14:54 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 14:54 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 14:54 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 14:54 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/12/15 14:54 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 14:54 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/12/15 14:54 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/12/15 14:54 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 14:54 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 14:54 | 1 |
| Tetrachloroethene | <0.74 | * | 1.0 | 0.74 | ug/L | | | 10/12/15 14:54 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/12/15 14:54 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 14:54 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/12/15 14:54 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 14:54 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/12/15 14:54 | 1 |

## Client Sample ID: MW-36

**Date Collected: 09/30/15 09:01**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-22**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/12/15 14:54 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 14:54 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/12/15 14:54 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 14:54 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *107* | | *70 - 130* | | *10/12/15 14:54* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *88* | | *70 - 130* | | *10/12/15 14:54* | *1* |
| *Dibromofluoromethane (Surr)* | *96* | | *70 - 130* | | *10/12/15 14:54* | *1* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *10/12/15 14:54* | *1* |

## Client Sample ID: MW-37

**Date Collected: 09/28/15 10:17**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-23**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <3.0 | | 5.0 | 3.0 | ug/L | | | 10/12/15 13:19 | 5 |
| Chloromethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/12/15 13:19 | 5 |
| **Vinyl chloride** | **200** | | 5.0 | 2.5 | ug/L | | | 10/12/15 13:19 | 5 |
| Bromomethane | <13 | | 25 | 13 | ug/L | | | 10/12/15 13:19 | 5 |
| Chloroethane | <13 | | 25 | 13 | ug/L | | | 10/12/15 13:19 | 5 |
| Trichlorofluoromethane | <2.1 | | 5.0 | 2.1 | ug/L | | | 10/12/15 13:19 | 5 |
| **1,1-Dichloroethene** | **4.2** | **J** | 5.0 | 1.8 | ug/L | | | 10/12/15 13:19 | 5 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/12/15 13:19 | 5 |
| Acetone | <35 | | 50 | 35 | ug/L | | | 10/12/15 13:19 | 5 |
| Carbon disulfide | <5.0 | | 10 | 5.0 | ug/L | | | 10/12/15 13:19 | 5 |
| Methyl acetate | <9.0 | | 25 | 9.0 | ug/L | | | 10/12/15 13:19 | 5 |
| Methylene Chloride | <13 | | 25 | 13 | ug/L | | | 10/12/15 13:19 | 5 |
| **trans-1,2-Dichloroethene** | **2.3** | **J** | 5.0 | 1.9 | ug/L | | | 10/12/15 13:19 | 5 |
| Methyl tert-butyl ether | <1.5 | | 50 | 1.5 | ug/L | | | 10/12/15 13:19 | 5 |
| 1,1-Dichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 10/12/15 13:19 | 5 |
| **cis-1,2-Dichloroethene** | **900** | | 5.0 | 2.1 | ug/L | | | 10/12/15 13:19 | 5 |
| 2-Butanone | <17 | | 50 | 17 | ug/L | | | 10/12/15 13:19 | 5 |
| Chloroform | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 13:19 | 5 |
| 1,1,1-Trichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 10/12/15 13:19 | 5 |
| Cyclohexane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/12/15 13:19 | 5 |
| Carbon tetrachloride | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/12/15 13:19 | 5 |
| **Benzene** | **22** | | 5.0 | 2.2 | ug/L | | | 10/12/15 13:19 | 5 |
| 1,2-Dichloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 13:19 | 5 |
| **Trichloroethene** | **25** | | 5.0 | 2.4 | ug/L | | | 10/12/15 13:19 | 5 |
| Methylcyclohexane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/12/15 13:19 | 5 |
| 1,2-Dichloropropane | <3.4 | | 5.0 | 3.4 | ug/L | | | 10/12/15 13:19 | 5 |
| Bromodichloromethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/12/15 13:19 | 5 |
| cis-1,3-Dichloropropene | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/12/15 13:19 | 5 |

## Client Sample ID: MW-37

**Date Collected: 09/28/15 10:17**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-23**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <11 | | 50 | 11 | ug/L | | | 10/12/15 13:19 | 5 |
| Toluene | <2.4 | | 5.0 | 2.4 | ug/L | | | 10/12/15 13:19 | 5 |
| trans-1,3-Dichloropropene | <2.1 | | 5.0 | 2.1 | ug/L | | | 10/12/15 13:19 | 5 |
| 1,1,2-Trichloroethane | <1.7 | | 5.0 | 1.7 | ug/L | | | 10/12/15 13:19 | 5 |
| **Tetrachloroethene** | **92** | | 5.0 | 3.7 | ug/L | | | 10/12/15 13:19 | 5 |
| 2-Hexanone | <10 | | 50 | 10 | ug/L | | | 10/12/15 13:19 | 5 |
| Dibromochloromethane | <1.6 | | 5.0 | 1.6 | ug/L | | | 10/12/15 13:19 | 5 |
| 1,2-Dibromoethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/12/15 13:19 | 5 |
| **Chlorobenzene** | **180** | | 5.0 | 1.3 | ug/L | | | 10/12/15 13:19 | 5 |
| **Ethylbenzene** | **1.8** | **J** | 5.0 | 1.7 | ug/L | | | 10/12/15 13:19 | 5 |
| **Xylenes, Total** | **4.1** | **J** | 5.0 | 1.2 | ug/L | | | 10/12/15 13:19 | 5 |
| Styrene | <1.4 | | 5.0 | 1.4 | ug/L | | | 10/12/15 13:19 | 5 |
| Bromoform | <2.2 | | 5.0 | 2.2 | ug/L | | | 10/12/15 13:19 | 5 |
| **Isopropylbenzene** | **2.3** | **J** | 5.0 | 1.8 | ug/L | | | 10/12/15 13:19 | 5 |
| 1,1,2,2-Tetrachloroethane | <3.1 | | 5.0 | 3.1 | ug/L | | | 10/12/15 13:19 | 5 |
| **1,3-Dichlorobenzene** | **15** | | 5.0 | 2.2 | ug/L | | | 10/12/15 13:19 | 5 |
| **1,4-Dichlorobenzene** | **100** | | 5.0 | 2.3 | ug/L | | | 10/12/15 13:19 | 5 |
| **1,2-Dichlorobenzene** | **25** | | 5.0 | 1.9 | ug/L | | | 10/12/15 13:19 | 5 |
| 1,2-Dibromo-3-Chloropropane | <5.5 | | 25 | 5.5 | ug/L | | | 10/12/15 13:19 | 5 |
| **1,2,4-Trichlorobenzene** | **270** | | 25 | 13 | ug/L | | | 10/12/15 13:19 | 5 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *109* | | *70 - 130* | | *10/12/15 13:19* | *5* |
| *1,2-Dichloroethane-d4 (Surr)* | *107* | | *70 - 130* | | *10/12/15 13:19* | *5* |
| *Dibromofluoromethane (Surr)* | *107* | | *70 - 130* | | *10/12/15 13:19* | *5* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* | | *10/12/15 13:19* | *5* |

## Client Sample ID: PAN-MW-9

**Date Collected: 09/30/15 18:29**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-24**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <12 | | 20 | 12 | ug/L | | | 10/13/15 10:52 | 20 |
| Chloromethane | <8.0 | | 20 | 8.0 | ug/L | | | 10/13/15 10:52 | 20 |
| **Vinyl chloride** | **160** | | 20 | 10 | ug/L | | | 10/13/15 10:52 | 20 |
| Bromomethane | <50 | | 100 | 50 | ug/L | | | 10/13/15 10:52 | 20 |
| Chloroethane | <50 | | 100 | 50 | ug/L | | | 10/13/15 10:52 | 20 |
| Trichlorofluoromethane | <8.4 | | 20 | 8.4 | ug/L | | | 10/13/15 10:52 | 20 |
| **1,1-Dichloroethene** | **7.5** | **J** | 20 | 7.2 | ug/L | | | 10/13/15 10:52 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <7.2 | | 20 | 7.2 | ug/L | | | 10/13/15 10:52 | 20 |
| Acetone | <140 | | 200 | 140 | ug/L | | | 10/13/15 10:52 | 20 |
| Carbon disulfide | <20 | | 40 | 20 | ug/L | | | 10/13/15 10:52 | 20 |
| Methyl acetate | <36 | | 100 | 36 | ug/L | | | 10/13/15 10:52 | 20 |
| Methylene Chloride | <50 | | 100 | 50 | ug/L | | | 10/13/15 10:52 | 20 |
| trans-1,2-Dichloroethene | <7.4 | | 20 | 7.4 | ug/L | | | 10/13/15 10:52 | 20 |
| Methyl tert-butyl ether | <6.0 | | 200 | 6.0 | ug/L | | | 10/13/15 10:52 | 20 |
| 1,1-Dichloroethane | <7.6 | | 20 | 7.6 | ug/L | | | 10/13/15 10:52 | 20 |
| **cis-1,2-Dichloroethene** | **2900** | | 20 | 8.2 | ug/L | | | 10/13/15 10:52 | 20 |
| 2-Butanone | <68 | | 200 | 68 | ug/L | | | 10/13/15 10:52 | 20 |

## Client Sample ID: PAN-MW-9

**Lab Sample ID: 680-117408-24**

**Date Collected: 09/30/15 18:29**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <10 | | 20 | 10 | ug/L | | | 10/13/15 10:52 | 20 |
| 1,1,1-Trichloroethane | <7.4 | | 20 | 7.4 | ug/L | | | 10/13/15 10:52 | 20 |
| Cyclohexane | <7.8 | | 20 | 7.8 | ug/L | | | 10/13/15 10:52 | 20 |
| Carbon tetrachloride | <6.6 | * | 20 | 6.6 | ug/L | | | 10/13/15 10:52 | 20 |
| **Benzene** | **8.6** | **J** | 20 | 8.6 | ug/L | | | 10/13/15 10:52 | 20 |
| 1,2-Dichloroethane | <10 | | 20 | 10 | ug/L | | | 10/13/15 10:52 | 20 |
| Trichloroethene | <9.6 | | 20 | 9.6 | ug/L | | | 10/13/15 10:52 | 20 |
| Methylcyclohexane | <8.6 | | 20 | 8.6 | ug/L | | | 10/13/15 10:52 | 20 |
| 1,2-Dichloropropane | <13 | | 20 | 13 | ug/L | | | 10/13/15 10:52 | 20 |
| Bromodichloromethane | <8.8 | | 20 | 8.8 | ug/L | | | 10/13/15 10:52 | 20 |
| cis-1,3-Dichloropropene | <8.0 | | 20 | 8.0 | ug/L | | | 10/13/15 10:52 | 20 |
| 4-Methyl-2-pentanone | <42 | | 200 | 42 | ug/L | | | 10/13/15 10:52 | 20 |
| Toluene | <9.6 | | 20 | 9.6 | ug/L | | | 10/13/15 10:52 | 20 |
| trans-1,3-Dichloropropene | <8.4 | | 20 | 8.4 | ug/L | | | 10/13/15 10:52 | 20 |
| 1,1,2-Trichloroethane | <6.6 | | 20 | 6.6 | ug/L | | | 10/13/15 10:52 | 20 |
| Tetrachloroethene | <15 | | 20 | 15 | ug/L | | | 10/13/15 10:52 | 20 |
| 2-Hexanone | <40 | | 200 | 40 | ug/L | | | 10/13/15 10:52 | 20 |
| Dibromochloromethane | <6.4 | | 20 | 6.4 | ug/L | | | 10/13/15 10:52 | 20 |
| 1,2-Dibromoethane | <8.8 | | 20 | 8.8 | ug/L | | | 10/13/15 10:52 | 20 |
| **Chlorobenzene** | **54** | | 20 | 5.2 | ug/L | | | 10/13/15 10:52 | 20 |
| **Ethylbenzene** | **560** | | 20 | 6.6 | ug/L | | | 10/13/15 10:52 | 20 |
| **Xylenes, Total** | **1500** | | 20 | 4.6 | ug/L | | | 10/13/15 10:52 | 20 |
| Styrene | <5.4 | | 20 | 5.4 | ug/L | | | 10/13/15 10:52 | 20 |
| Bromoform | <8.6 | | 20 | 8.6 | ug/L | | | 10/13/15 10:52 | 20 |
| **Isopropylbenzene** | **25** | | 20 | 7.0 | ug/L | | | 10/13/15 10:52 | 20 |
| 1,1,2,2-Tetrachloroethane | <12 | | 20 | 12 | ug/L | | | 10/13/15 10:52 | 20 |
| **1,3-Dichlorobenzene** | **12** | **J** | 20 | 8.6 | ug/L | | | 10/13/15 10:52 | 20 |
| **1,4-Dichlorobenzene** | **39** | | 20 | 9.2 | ug/L | | | 10/13/15 10:52 | 20 |
| **1,2-Dichlorobenzene** | **7.5** | **J** | 20 | 7.4 | ug/L | | | 10/13/15 10:52 | 20 |
| 1,2-Dibromo-3-Chloropropane | <22 | | 100 | 22 | ug/L | | | 10/13/15 10:52 | 20 |
| 1,2,4-Trichlorobenzene | <50 | | 100 | 50 | ug/L | | | 10/13/15 10:52 | 20 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *95* | | *70 - 130* | | *10/13/15 10:52* | *20* |
| *1,2-Dichloroethane-d4 (Surr)* | *123* | | *70 - 130* | | *10/13/15 10:52* | *20* |
| *Dibromofluoromethane (Surr)* | *119* | | *70 - 130* | | *10/13/15 10:52* | *20* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/13/15 10:52* | *20* |

## Client Sample ID: PAN-MW-10

**Lab Sample ID: 680-117408-25**

**Date Collected: 09/30/15 14:43**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/12/15 15:17 | 1 |
| Chloromethane | <0.40 | * | 1.0 | 0.40 | ug/L | | | 10/12/15 15:17 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 15:17 | 1 |
| Bromomethane | <2.5 | * | 5.0 | 2.5 | ug/L | | | 10/12/15 15:17 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 15:17 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 15:17 | 1 |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

**Client Sample ID: PAN-MW-10**
**Date Collected: 09/30/15 14:43**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-25**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 15:17 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/12/15 15:17 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/12/15 15:17 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/12/15 15:17 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 15:17 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 15:17 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/12/15 15:17 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/12/15 15:17 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/12/15 15:17 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 15:17 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/12/15 15:17 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 15:17 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 15:17 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 15:17 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/12/15 15:17 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 15:17 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/12/15 15:17 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/12/15 15:17 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 15:17 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 15:17 | 1 |
| Tetrachloroethene | <0.74 | * | 1.0 | 0.74 | ug/L | | | 10/12/15 15:17 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/12/15 15:17 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 15:17 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/12/15 15:17 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 15:17 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/12/15 15:17 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/12/15 15:17 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 15:17 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/12/15 15:17 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 15:17 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *106* | | *70 - 130* | | *10/12/15 15:17* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *90* | | *70 - 130* | | *10/12/15 15:17* | *1* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *10/12/15 15:17* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *10/12/15 15:17* | *1* |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

**Client Sample ID: Trip Blank**
**Date Collected: 09/28/15 00:00**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-26**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/09/15 14:40 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 14:40 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 14:40 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 14:40 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 14:40 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 14:40 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/09/15 14:40 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/09/15 14:40 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/09/15 14:40 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 14:40 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 14:40 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/09/15 14:40 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/09/15 14:40 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/09/15 14:40 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 14:40 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/09/15 14:40 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 14:40 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 14:40 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/09/15 14:40 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/09/15 14:40 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 14:40 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 14:40 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/09/15 14:40 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/09/15 14:40 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 14:40 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/09/15 14:40 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/09/15 14:40 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 14:40 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/09/15 14:40 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 14:40 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/09/15 14:40 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/09/15 14:40 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 14:40 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/09/15 14:40 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 14:40 | 1 |

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

**Client Sample ID: Trip Blank**
**Date Collected: 09/28/15 00:00**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-26**
**Matrix: Water**

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 104 | | 70 - 130 | | 10/09/15 14:40 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 106 | | 70 - 130 | | 10/09/15 14:40 | 1 |
| Dibromofluoromethane (Surr) | 106 | | 70 - 130 | | 10/09/15 14:40 | 1 |
| 4-Bromofluorobenzene (Surr) | 99 | | 70 - 130 | | 10/09/15 14:40 | 1 |

# Surrogate Summary

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Water** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | TOL | 12DCE | DBFM | BFB |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | (70-130) | (70-130) |
| 680-117408-1 | IW-IR | 102 | 99 | 97 | 105 |
| 680-117408-2 | IW-18 | 97 | 125 | 118 | 98 |
| 680-117408-3 | LAW-PZ-8R | 80 | 105 | 110 | 93 |
| 680-117408-4 | MW-14 | 107 | 89 | 97 | 103 |
| 680-117408-5 | MW-16 | 103 | 90 | 98 | 101 |
| 680-117408-6 | MW-17R | 100 | 90 | 97 | 93 |
| 680-117408-7 | MW-18R | 103 | 108 | 109 | 101 |
| 680-117408-8 | MW-19 | 105 | 106 | 107 | 100 |
| 680-117408-9 | MW-23 | 105 | 106 | 109 | 100 |
| 680-117408-10 | MW-24R | 109 | 108 | 109 | 101 |
| 680-117408-11 | MW-25 | 105 | 105 | 106 | 98 |
| 680-117408-12 | MW-26R | 100 | 127 | 120 | 98 |
| 680-117408-13 | MW-27 | 105 | 108 | 108 | 98 |
| 680-117408-14 | MW-28 | 108 | 94 | 99 | 98 |
| 680-117408-15 | MW-29 | 102 | 101 | 98 | 108 |
| 680-117408-16 | MW-30 | 108 | 95 | 101 | 99 |
| 680-117408-17 | MW-31 | 104 | 110 | 110 | 99 |
| 680-117408-18 | MW-32 | 105 | 111 | 109 | 103 |
| 680-117408-19 | MW-33 | 90 | 106 | 103 | 85 |
| 680-117408-20 | MW-34 | 105 | 109 | 107 | 99 |
| 680-117408-21 | MW-35 | 105 | 110 | 108 | 100 |
| 680-117408-22 | MW-36 | 107 | 88 | 96 | 101 |
| 680-117408-23 | MW-37 | 109 | 107 | 107 | 97 |
| 680-117408-24 | PAN-MW-9 | 95 | 123 | 119 | 98 |
| 680-117408-25 | PAN-MW-10 | 106 | 90 | 98 | 99 |
| 680-117408-26 | Trip Blank | 104 | 106 | 106 | 99 |
| LCS 680-404977/4 | Lab Control Sample | 88 | 96 | 96 | 89 |
| LCS 680-405143/3 | Lab Control Sample | 99 | 113 | 111 | 97 |
| LCS 680-405239/4 | Lab Control Sample | 111 | 98 | 111 | 92 |
| LCS 680-405241/4 | Lab Control Sample | 104 | 97 | 104 | 84 |
| LCS 680-405400/4 | Lab Control Sample | 99 | 112 | 112 | 103 |
| LCS 680-405413/4 | Lab Control Sample | 89 | 91 | 94 | 94 |
| LCS 680-405604/4 | Lab Control Sample | 100 | 116 | 114 | 100 |
| LCS 680-405615/4 | Lab Control Sample | 104 | 102 | 106 | 104 |
| LCSD 680-404977/5 | Lab Control Sample Dup | 85 | 102 | 98 | 87 |
| LCSD 680-405143/4 | Lab Control Sample Dup | 100 | 113 | 113 | 99 |
| LCSD 680-405239/5 | Lab Control Sample Dup | 111 | 99 | 111 | 93 |
| LCSD 680-405241/5 | Lab Control Sample Dup | 103 | 96 | 102 | 83 |
| LCSD 680-405400/5 | Lab Control Sample Dup | 100 | 115 | 113 | 100 |
| LCSD 680-405413/5 | Lab Control Sample Dup | 100 | 107 | 106 | 97 |
| LCSD 680-405604/5 | Lab Control Sample Dup | 101 | 114 | 114 | 100 |
| LCSD 680-405615/5 | Lab Control Sample Dup | 105 | 104 | 107 | 106 |
| MB 680-404977/9 | Method Blank | 104 | 105 | 106 | 98 |
| MB 680-405143/8 | Method Blank | 106 | 107 | 107 | 100 |
| MB 680-405239/9 | Method Blank | 110 | 95 | 100 | 98 |
| MB 680-405241/9 | Method Blank | 104 | 92 | 100 | 99 |
| MB 680-405400/9 | Method Blank | 105 | 109 | 110 | 100 |
| MB 680-405413/9 | Method Blank | 101 | 108 | 113 | 97 |
| MB 680-405604/9 | Method Blank | 105 | 108 | 109 | 100 |

# Surrogate Summary

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Matrix: Water** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | TOL | 12DCE | DBFM | BFB | | | | |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | (70-130) | (70-130) | | | | |
| MB 680-405615/9 | Method Blank | 105 | 98 | 99 | 106 | | | | |

**Surrogate Legend**

TOL = Toluene-d8 (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 680-404977/9**
**Matrix: Water**
**Analysis Batch: 404977**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/09/15 11:04 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 11:04 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 11:04 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 11:04 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 11:04 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/09/15 11:04 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/09/15 11:04 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/09/15 11:04 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/09/15 11:04 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 11:04 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 11:04 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/09/15 11:04 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/09/15 11:04 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/09/15 11:04 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 11:04 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/09/15 11:04 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 11:04 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/09/15 11:04 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/09/15 11:04 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/09/15 11:04 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 11:04 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/09/15 11:04 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/09/15 11:04 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/09/15 11:04 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 11:04 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/09/15 11:04 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/09/15 11:04 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/09/15 11:04 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/09/15 11:04 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/09/15 11:04 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/09/15 11:04 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/09/15 11:04 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 11:04 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/09/15 11:04 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/09/15 11:04 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-404977/9**
**Matrix: Water**
**Analysis Batch: 404977**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 104 | | 70 - 130 | | 10/09/15 11:04 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 70 - 130 | | 10/09/15 11:04 | 1 |
| Dibromofluoromethane (Surr) | 106 | | 70 - 130 | | 10/09/15 11:04 | 1 |
| 4-Bromofluorobenzene (Surr) | 98 | | 70 - 130 | | 10/09/15 11:04 | 1 |

**Lab Sample ID: LCS 680-404977/4**
**Matrix: Water**
**Analysis Batch: 404977**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 42.9 | | ug/L | | 86 | 51 - 140 |
| Chloromethane | 50.0 | 43.8 | | ug/L | | 88 | 63 - 126 |
| Vinyl chloride | 50.0 | 43.3 | | ug/L | | 87 | 68 - 132 |
| Bromomethane | 50.0 | 47.9 | | ug/L | | 96 | 20 - 180 |
| Chloroethane | 50.0 | 44.1 | | ug/L | | 88 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 47.9 | | ug/L | | 96 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 44.1 | | ug/L | | 88 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 45.6 | | ug/L | | 91 | 65 - 131 |
| Acetone | 250 | 202 | | ug/L | | 81 | 60 - 154 |
| Carbon disulfide | 50.0 | 43.4 | | ug/L | | 87 | 73 - 127 |
| Methyl acetate | 250 | 222 | | ug/L | | 89 | 66 - 134 |
| Methylene Chloride | 50.0 | 45.3 | | ug/L | | 91 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 44.5 | | ug/L | | 89 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 45.7 | | ug/L | | 91 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 46.3 | | ug/L | | 93 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 46.9 | | ug/L | | 94 | 80 - 122 |
| 2-Butanone | 250 | 217 | | ug/L | | 87 | 75 - 133 |
| Chloroform | 50.0 | 47.3 | | ug/L | | 95 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 50.3 | | ug/L | | 101 | 74 - 128 |
| Cyclohexane | 50.0 | 43.2 | | ug/L | | 86 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 53.3 | | ug/L | | 107 | 75 - 130 |
| Benzene | 50.0 | 43.7 | | ug/L | | 87 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 48.4 | | ug/L | | 97 | 75 - 130 |
| Trichloroethene | 50.0 | 47.4 | | ug/L | | 95 | 80 - 123 |
| Methylcyclohexane | 50.0 | 43.4 | | ug/L | | 87 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 45.7 | | ug/L | | 91 | 80 - 123 |
| Bromodichloromethane | 50.0 | 50.6 | | ug/L | | 101 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 48.4 | | ug/L | | 97 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 221 | | ug/L | | 88 | 75 - 135 |
| Toluene | 50.0 | 44.6 | | ug/L | | 89 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 51.1 | | ug/L | | 102 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 44.9 | | ug/L | | 90 | 79 - 125 |
| Tetrachloroethene | 50.0 | 45.3 | | ug/L | | 91 | 77 - 123 |
| 2-Hexanone | 250 | 220 | | ug/L | | 88 | 70 - 141 |
| Dibromochloromethane | 50.0 | 52.1 | | ug/L | | 104 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 45.2 | | ug/L | | 90 | 77 - 131 |
| Chlorobenzene | 50.0 | 44.2 | | ug/L | | 88 | 80 - 120 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-404977/4**
**Matrix: Water**
**Analysis Batch: 404977**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Ethylbenzene | 50.0 | 43.4 | | ug/L | | 87 | 80 - 120 |
| Xylenes, Total | 100 | 89.8 | | ug/L | | 90 | 80 - 120 |
| Styrene | 50.0 | 44.6 | | ug/L | | 89 | 80 - 122 |
| Bromoform | 50.0 | 50.7 | | ug/L | | 101 | 69 - 135 |
| Isopropylbenzene | 50.0 | 45.1 | | ug/L | | 90 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 42.4 | | ug/L | | 85 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 45.5 | | ug/L | | 91 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 45.4 | | ug/L | | 91 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 46.3 | | ug/L | | 93 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 45.9 | | ug/L | | 92 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 49.9 | | ug/L | | 100 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *88* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *96* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *89* | | *70 - 130* |

**Lab Sample ID: LCSD 680-404977/5**
**Matrix: Water**
**Analysis Batch: 404977**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 35.3 | | ug/L | | 71 | 51 - 140 | 19 | 40 |
| Chloromethane | 50.0 | 43.0 | | ug/L | | 86 | 63 - 126 | 2 | 30 |
| Vinyl chloride | 50.0 | 39.3 | | ug/L | | 79 | 68 - 132 | 10 | 30 |
| Bromomethane | 50.0 | 49.0 | | ug/L | | 98 | 20 - 180 | 2 | 40 |
| Chloroethane | 50.0 | 44.3 | | ug/L | | 89 | 50 - 151 | 0 | 30 |
| Trichlorofluoromethane | 50.0 | 40.7 | | ug/L | | 81 | 58 - 145 | 16 | 30 |
| 1,1-Dichloroethene | 50.0 | 40.8 | | ug/L | | 82 | 74 - 125 | 8 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 38.1 | | ug/L | | 76 | 65 - 131 | 18 | 30 |
| Acetone | 250 | 229 | | ug/L | | 92 | 60 - 154 | 13 | 40 |
| Carbon disulfide | 50.0 | 40.7 | | ug/L | | 81 | 73 - 127 | 6 | 20 |
| Methyl acetate | 250 | 243 | | ug/L | | 97 | 66 - 134 | 9 | 30 |
| Methylene Chloride | 50.0 | 47.2 | | ug/L | | 94 | 76 - 129 | 4 | 20 |
| trans-1,2-Dichloroethene | 50.0 | 43.9 | | ug/L | | 88 | 78 - 123 | 1 | 20 |
| Methyl tert-butyl ether | 50.0 | 49.4 | | ug/L | | 99 | 74 - 135 | 8 | 20 |
| 1,1-Dichloroethane | 50.0 | 46.1 | | ug/L | | 92 | 80 - 120 | 0 | 20 |
| cis-1,2-Dichloroethene | 50.0 | 48.3 | | ug/L | | 97 | 80 - 122 | 3 | 20 |
| 2-Butanone | 250 | 237 | | ug/L | | 95 | 75 - 133 | 9 | 30 |
| Chloroform | 50.0 | 48.3 | | ug/L | | 97 | 79 - 122 | 2 | 20 |
| 1,1,1-Trichloroethane | 50.0 | 48.0 | | ug/L | | 96 | 74 - 128 | 5 | 20 |
| Cyclohexane | 50.0 | 37.8 | | ug/L | | 76 | 69 - 130 | 13 | 30 |
| Carbon tetrachloride | 50.0 | 49.1 | | ug/L | | 98 | 75 - 130 | 8 | 20 |
| Benzene | 50.0 | 44.4 | | ug/L | | 89 | 73 - 131 | 2 | 30 |
| 1,2-Dichloroethane | 50.0 | 51.6 | | ug/L | | 103 | 75 - 130 | 6 | 20 |
| Trichloroethene | 50.0 | 45.9 | | ug/L | | 92 | 80 - 123 | 3 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-404977/5**
**Matrix: Water**
**Analysis Batch: 404977**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Methylcyclohexane | | | 50.0 | 37.7 | | ug/L | | 75 | 75 - 127 | 14 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 47.2 | | ug/L | | 94 | 80 - 123 | 3 | 20 |
| Bromodichloromethane | | | 50.0 | 52.5 | | ug/L | | 105 | 77 - 129 | 4 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 50.2 | | ug/L | | 100 | 80 - 133 | 4 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 245 | | ug/L | | 98 | 75 - 135 | 10 | 30 |
| Toluene | | | 50.0 | 45.2 | | ug/L | | 90 | 80 - 122 | 1 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 53.8 | | ug/L | | 108 | 74 - 140 | 5 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 48.5 | | ug/L | | 97 | 79 - 125 | 8 | 20 |
| Tetrachloroethene | | | 50.0 | 43.8 | | ug/L | | 88 | 77 - 123 | 4 | 20 |
| 2-Hexanone | | | 250 | 246 | | ug/L | | 99 | 70 - 141 | 11 | 40 |
| Dibromochloromethane | | | 50.0 | 54.6 | | ug/L | | 109 | 71 - 136 | 5 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 48.5 | | ug/L | | 97 | 77 - 131 | 7 | 30 |
| Chlorobenzene | | | 50.0 | 44.3 | | ug/L | | 89 | 80 - 120 | 0 | 20 |
| Ethylbenzene | | | 50.0 | 42.4 | | ug/L | | 85 | 80 - 120 | 3 | 20 |
| Xylenes, Total | | | 100 | 88.5 | | ug/L | | 89 | 80 - 120 | 1 | 20 |
| Styrene | | | 50.0 | 45.6 | | ug/L | | 91 | 80 - 122 | 2 | 20 |
| Bromoform | | | 50.0 | 53.0 | | ug/L | | 106 | 69 - 135 | 5 | 20 |
| Isopropylbenzene | | | 50.0 | 43.5 | | ug/L | | 87 | 80 - 120 | 4 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 45.2 | | ug/L | | 90 | 72 - 128 | 6 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 44.5 | | ug/L | | 89 | 80 - 120 | 2 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 43.7 | | ug/L | | 87 | 80 - 120 | 4 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 45.0 | | ug/L | | 90 | 80 - 120 | 3 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 48.0 | | ug/L | | 96 | 59 - 141 | 5 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 49.4 | | ug/L | | 99 | 77 - 131 | 1 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *85* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *102* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *87* | | *70 - 130* |

**Lab Sample ID: MB 680-405143/8**
**Matrix: Water**
**Analysis Batch: 405143**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/10/15 11:11 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/10/15 11:11 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 11:11 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 11:11 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 11:11 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/10/15 11:11 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/10/15 11:11 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/10/15 11:11 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/10/15 11:11 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 11:11 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-405143/8**
**Matrix: Water**
**Analysis Batch: 405143**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 11:11 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/10/15 11:11 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/10/15 11:11 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/10/15 11:11 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 11:11 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/10/15 11:11 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 11:11 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/10/15 11:11 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/10/15 11:11 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/10/15 11:11 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/10/15 11:11 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/10/15 11:11 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/10/15 11:11 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/10/15 11:11 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 11:11 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/10/15 11:11 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/10/15 11:11 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/10/15 11:11 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/10/15 11:11 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/10/15 11:11 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/10/15 11:11 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/10/15 11:11 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 11:11 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/10/15 11:11 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/10/15 11:11 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *106* | | *70 - 130* | | *10/10/15 11:11* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *107* | | *70 - 130* | | *10/10/15 11:11* | *1* |
| *Dibromofluoromethane (Surr)* | *107* | | *70 - 130* | | *10/10/15 11:11* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *10/10/15 11:11* | *1* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-405143/3**
**Matrix: Water**
**Analysis Batch: 405143**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 57.3 | | ug/L | | 115 | 51 - 140 |
| Chloromethane | 50.0 | 54.5 | | ug/L | | 109 | 63 - 126 |
| Vinyl chloride | 50.0 | 53.8 | | ug/L | | 108 | 68 - 132 |
| Bromomethane | 50.0 | 56.9 | | ug/L | | 114 | 20 - 180 |
| Chloroethane | 50.0 | 54.9 | | ug/L | | 110 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 59.0 | | ug/L | | 118 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 52.0 | | ug/L | | 104 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 55.2 | | ug/L | | 110 | 65 - 131 |
| Acetone | 250 | 233 | | ug/L | | 93 | 60 - 154 |
| Carbon disulfide | 50.0 | 50.8 | | ug/L | | 102 | 73 - 127 |
| Methyl acetate | 250 | 240 | | ug/L | | 96 | 66 - 134 |
| Methylene Chloride | 50.0 | 51.3 | | ug/L | | 103 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 51.6 | | ug/L | | 103 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 52.6 | | ug/L | | 105 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 51.4 | | ug/L | | 103 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 54.4 | | ug/L | | 109 | 80 - 122 |
| 2-Butanone | 250 | 249 | | ug/L | | 100 | 75 - 133 |
| Chloroform | 50.0 | 54.6 | | ug/L | | 109 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 57.9 | | ug/L | | 116 | 74 - 128 |
| Cyclohexane | 50.0 | 50.1 | | ug/L | | 100 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 64.7 | | ug/L | | 129 | 75 - 130 |
| Benzene | 50.0 | 49.4 | | ug/L | | 99 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 56.8 | | ug/L | | 114 | 75 - 130 |
| Trichloroethene | 50.0 | 54.9 | | ug/L | | 110 | 80 - 123 |
| Methylcyclohexane | 50.0 | 51.3 | | ug/L | | 103 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 53.5 | | ug/L | | 107 | 80 - 123 |
| Bromodichloromethane | 50.0 | 58.2 | | ug/L | | 116 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 58.1 | | ug/L | | 116 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 256 | | ug/L | | 103 | 75 - 135 |
| Toluene | 50.0 | 50.8 | | ug/L | | 102 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 58.8 | | ug/L | | 118 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 51.6 | | ug/L | | 103 | 79 - 125 |
| Tetrachloroethene | 50.0 | 52.8 | | ug/L | | 106 | 77 - 123 |
| 2-Hexanone | 250 | 256 | | ug/L | | 103 | 70 - 141 |
| Dibromochloromethane | 50.0 | 61.1 | | ug/L | | 122 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 54.1 | | ug/L | | 108 | 77 - 131 |
| Chlorobenzene | 50.0 | 49.0 | | ug/L | | 98 | 80 - 120 |
| Ethylbenzene | 50.0 | 48.1 | | ug/L | | 96 | 80 - 120 |
| Xylenes, Total | 100 | 98.7 | | ug/L | | 99 | 80 - 120 |
| Styrene | 50.0 | 49.8 | | ug/L | | 100 | 80 - 122 |
| Bromoform | 50.0 | 63.7 | | ug/L | | 127 | 69 - 135 |
| Isopropylbenzene | 50.0 | 51.0 | | ug/L | | 102 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 48.8 | | ug/L | | 98 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 49.3 | | ug/L | | 99 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 48.7 | | ug/L | | 97 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 50.4 | | ug/L | | 101 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 53.6 | | ug/L | | 107 | 59 - 141 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-405143/3**
**Matrix: Water**
**Analysis Batch: 405143**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | | | 50.0 | 55.5 | | ug/L | | 111 | 77 - 131 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *113* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *111* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |

**Lab Sample ID: LCSD 680-405143/4**
**Matrix: Water**
**Analysis Batch: 405143**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | | | 50.0 | 55.8 | | ug/L | | 112 | 51 - 140 | 3 | 40 |
| Chloromethane | | | 50.0 | 53.8 | | ug/L | | 108 | 63 - 126 | 1 | 30 |
| Vinyl chloride | | | 50.0 | 53.6 | | ug/L | | 107 | 68 - 132 | 0 | 30 |
| Bromomethane | | | 50.0 | 58.8 | | ug/L | | 118 | 20 - 180 | 3 | 40 |
| Chloroethane | | | 50.0 | 54.3 | | ug/L | | 109 | 50 - 151 | 1 | 30 |
| Trichlorofluoromethane | | | 50.0 | 57.9 | | ug/L | | 116 | 58 - 145 | 2 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 52.2 | | ug/L | | 104 | 74 - 125 | 0 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 54.4 | | ug/L | | 109 | 65 - 131 | 2 | 30 |
| Acetone | | | 250 | 237 | | ug/L | | 95 | 60 - 154 | 2 | 40 |
| Carbon disulfide | | | 50.0 | 50.7 | | ug/L | | 101 | 73 - 127 | 0 | 20 |
| Methyl acetate | | | 250 | 236 | | ug/L | | 94 | 66 - 134 | 2 | 30 |
| Methylene Chloride | | | 50.0 | 50.8 | | ug/L | | 102 | 76 - 129 | 1 | 20 |
| trans-1,2-Dichloroethene | | | 50.0 | 51.4 | | ug/L | | 103 | 78 - 123 | 0 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 53.1 | | ug/L | | 106 | 74 - 135 | 1 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 51.0 | | ug/L | | 102 | 80 - 120 | 1 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 54.9 | | ug/L | | 110 | 80 - 122 | 1 | 20 |
| 2-Butanone | | | 250 | 243 | | ug/L | | 97 | 75 - 133 | 3 | 30 |
| Chloroform | | | 50.0 | 54.7 | | ug/L | | 109 | 79 - 122 | 0 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 58.4 | | ug/L | | 117 | 74 - 128 | 1 | 20 |
| Cyclohexane | | | 50.0 | 51.0 | | ug/L | | 102 | 69 - 130 | 2 | 30 |
| Carbon tetrachloride | | | 50.0 | 65.0 | | ug/L | | 130 | 75 - 130 | 0 | 20 |
| Benzene | | | 50.0 | 50.4 | | ug/L | | 101 | 73 - 131 | 2 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 56.0 | | ug/L | | 112 | 75 - 130 | 1 | 20 |
| Trichloroethene | | | 50.0 | 54.9 | | ug/L | | 110 | 80 - 123 | 0 | 20 |
| Methylcyclohexane | | | 50.0 | 50.7 | | ug/L | | 101 | 75 - 127 | 1 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 53.5 | | ug/L | | 107 | 80 - 123 | 0 | 20 |
| Bromodichloromethane | | | 50.0 | 58.2 | | ug/L | | 116 | 77 - 129 | 0 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 58.2 | | ug/L | | 116 | 80 - 133 | 0 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 255 | | ug/L | | 102 | 75 - 135 | 0 | 30 |
| Toluene | | | 50.0 | 52.0 | | ug/L | | 104 | 80 - 122 | 2 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 59.0 | | ug/L | | 118 | 74 - 140 | 0 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 51.0 | | ug/L | | 102 | 79 - 125 | 1 | 20 |
| Tetrachloroethene | | | 50.0 | 53.9 | | ug/L | | 108 | 77 - 123 | 2 | 20 |
| 2-Hexanone | | | 250 | 257 | | ug/L | | 103 | 70 - 141 | 0 | 40 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-405143/4**
**Matrix: Water**
**Analysis Batch: 405143**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dibromochloromethane | | | 50.0 | 61.9 | | ug/L | | 124 | 71 - 136 | 1 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 55.0 | | ug/L | | 110 | 77 - 131 | 2 | 30 |
| Chlorobenzene | | | 50.0 | 49.5 | | ug/L | | 99 | 80 - 120 | 1 | 20 |
| Ethylbenzene | | | 50.0 | 49.3 | | ug/L | | 99 | 80 - 120 | 2 | 20 |
| Xylenes, Total | | | 100 | 101 | | ug/L | | 101 | 80 - 120 | 2 | 20 |
| Styrene | | | 50.0 | 50.6 | | ug/L | | 101 | 80 - 122 | 2 | 20 |
| Bromoform | | | 50.0 | 65.4 | | ug/L | | 131 | 69 - 135 | 3 | 20 |
| Isopropylbenzene | | | 50.0 | 51.5 | | ug/L | | 103 | 80 - 120 | 1 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 47.9 | | ug/L | | 96 | 72 - 128 | 2 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 50.4 | | ug/L | | 101 | 80 - 120 | 2 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 49.3 | | ug/L | | 99 | 80 - 120 | 1 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 51.4 | | ug/L | | 103 | 80 - 120 | 2 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 56.0 | | ug/L | | 112 | 59 - 141 | 4 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 57.2 | | ug/L | | 114 | 77 - 131 | 3 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *113* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *113* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* |

**Lab Sample ID: MB 680-405239/9**
**Matrix: Water**
**Analysis Batch: 405239**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/12/15 10:01 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/12/15 10:01 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 10:01 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 10:01 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 10:01 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 10:01 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/12/15 10:01 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/12/15 10:01 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/12/15 10:01 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 10:01 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 10:01 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/12/15 10:01 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/12/15 10:01 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/12/15 10:01 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 10:01 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/12/15 10:01 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 10:01 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 10:01 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-405239/9**
**Matrix: Water**
**Analysis Batch: 405239**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 10:01 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 10:01 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/12/15 10:01 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 10:01 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/12/15 10:01 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/12/15 10:01 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 10:01 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 10:01 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/12/15 10:01 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/12/15 10:01 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 10:01 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/12/15 10:01 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 10:01 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/12/15 10:01 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/12/15 10:01 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 10:01 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/12/15 10:01 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 10:01 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *110* | | *70 - 130* | | *10/12/15 10:01* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* | | *10/12/15 10:01* | *1* |
| *Dibromofluoromethane (Surr)* | *100* | | *70 - 130* | | *10/12/15 10:01* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *10/12/15 10:01* | *1* |

**Lab Sample ID: LCS 680-405239/4**
**Matrix: Water**
**Analysis Batch: 405239**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 53.0 | | ug/L | | 106 | 51 - 140 |
| Chloromethane | 50.0 | 52.4 | | ug/L | | 105 | 63 - 126 |
| Vinyl chloride | 50.0 | 55.1 | | ug/L | | 110 | 68 - 132 |
| Bromomethane | 50.0 | 54.9 | | ug/L | | 110 | 20 - 180 |
| Chloroethane | 50.0 | 62.6 | | ug/L | | 125 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 51.1 | | ug/L | | 102 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 45.1 | | ug/L | | 90 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 54.9 | | ug/L | | 110 | 65 - 131 |
| Acetone | 250 | 227 | | ug/L | | 91 | 60 - 154 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-405239/4**
**Matrix: Water**
**Analysis Batch: 405239**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Carbon disulfide | 50.0 | 50.0 | | ug/L | | 100 | 73 - 127 |
| Methyl acetate | 250 | 204 | | ug/L | | 82 | 66 - 134 |
| Methylene Chloride | 50.0 | 53.0 | | ug/L | | 106 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 54.8 | | ug/L | | 110 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 49.3 | | ug/L | | 99 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 49.6 | | ug/L | | 99 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 51.7 | | ug/L | | 103 | 80 - 122 |
| 2-Butanone | 250 | 234 | | ug/L | | 94 | 75 - 133 |
| Chloroform | 50.0 | 53.0 | | ug/L | | 106 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 50.8 | | ug/L | | 102 | 74 - 128 |
| Cyclohexane | 50.0 | 53.7 | | ug/L | | 107 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 42.3 | | ug/L | | 85 | 75 - 130 |
| Benzene | 50.0 | 52.9 | | ug/L | | 106 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 49.0 | | ug/L | | 98 | 75 - 130 |
| Trichloroethene | 50.0 | 55.7 | | ug/L | | 111 | 80 - 123 |
| Methylcyclohexane | 50.0 | 56.5 | | ug/L | | 113 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 52.8 | | ug/L | | 106 | 80 - 123 |
| Bromodichloromethane | 50.0 | 52.5 | | ug/L | | 105 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 52.7 | | ug/L | | 105 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 225 | | ug/L | | 90 | 75 - 135 |
| Toluene | 50.0 | 55.2 | | ug/L | | 110 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 49.1 | | ug/L | | 98 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 50.7 | | ug/L | | 101 | 79 - 125 |
| Tetrachloroethene | 50.0 | 50.0 | | ug/L | | 100 | 77 - 123 |
| 2-Hexanone | 250 | 218 | | ug/L | | 87 | 70 - 141 |
| Dibromochloromethane | 50.0 | 43.8 | | ug/L | | 88 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 53.6 | | ug/L | | 107 | 77 - 131 |
| Chlorobenzene | 50.0 | 55.1 | | ug/L | | 110 | 80 - 120 |
| Ethylbenzene | 50.0 | 54.6 | | ug/L | | 109 | 80 - 120 |
| Xylenes, Total | 100 | 107 | | ug/L | | 107 | 80 - 120 |
| Styrene | 50.0 | 54.8 | | ug/L | | 110 | 80 - 122 |
| Bromoform | 50.0 | 40.1 | | ug/L | | 80 | 69 - 135 |
| Isopropylbenzene | 50.0 | 55.8 | | ug/L | | 112 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 49.8 | | ug/L | | 100 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 50.8 | | ug/L | | 102 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 51.4 | | ug/L | | 103 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 50.4 | | ug/L | | 101 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 34.7 | | ug/L | | 69 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 44.0 | | ug/L | | 88 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *111* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *111* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *70 - 130* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-405239/5**
**Matrix: Water**
**Analysis Batch: 405239**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 54.2 | | ug/L | | 108 | 51 - 140 | 2 | 40 |
| Chloromethane | 50.0 | 52.6 | | ug/L | | 105 | 63 - 126 | 0 | 30 |
| Vinyl chloride | 50.0 | 57.3 | | ug/L | | 115 | 68 - 132 | 4 | 30 |
| Bromomethane | 50.0 | 62.1 | | ug/L | | 124 | 20 - 180 | 12 | 40 |
| Chloroethane | 50.0 | 63.0 | | ug/L | | 126 | 50 - 151 | 1 | 30 |
| Trichlorofluoromethane | 50.0 | 50.0 | | ug/L | | 100 | 58 - 145 | 2 | 30 |
| 1,1-Dichloroethene | 50.0 | 46.5 | | ug/L | | 93 | 74 - 125 | 3 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 55.7 | | ug/L | | 111 | 65 - 131 | 2 | 30 |
| Acetone | 250 | 245 | | ug/L | | 98 | 60 - 154 | 8 | 40 |
| Carbon disulfide | 50.0 | 49.3 | | ug/L | | 99 | 73 - 127 | 1 | 20 |
| Methyl acetate | 250 | 208 | | ug/L | | 83 | 66 - 134 | 2 | 30 |
| Methylene Chloride | 50.0 | 53.2 | | ug/L | | 106 | 76 - 129 | 1 | 20 |
| trans-1,2-Dichloroethene | 50.0 | 54.9 | | ug/L | | 110 | 78 - 123 | 0 | 20 |
| Methyl tert-butyl ether | 50.0 | 49.9 | | ug/L | | 100 | 74 - 135 | 1 | 20 |
| 1,1-Dichloroethane | 50.0 | 49.8 | | ug/L | | 100 | 80 - 120 | 1 | 20 |
| cis-1,2-Dichloroethene | 50.0 | 51.8 | | ug/L | | 104 | 80 - 122 | 0 | 20 |
| 2-Butanone | 250 | 236 | | ug/L | | 94 | 75 - 133 | 1 | 30 |
| Chloroform | 50.0 | 53.2 | | ug/L | | 106 | 79 - 122 | 0 | 20 |
| 1,1,1-Trichloroethane | 50.0 | 51.2 | | ug/L | | 102 | 74 - 128 | 1 | 20 |
| Cyclohexane | 50.0 | 55.0 | | ug/L | | 110 | 69 - 130 | 2 | 30 |
| Carbon tetrachloride | 50.0 | 43.6 | | ug/L | | 87 | 75 - 130 | 3 | 20 |
| Benzene | 50.0 | 53.2 | | ug/L | | 106 | 73 - 131 | 1 | 30 |
| 1,2-Dichloroethane | 50.0 | 49.0 | | ug/L | | 98 | 75 - 130 | 0 | 20 |
| Trichloroethene | 50.0 | 55.0 | | ug/L | | 110 | 80 - 123 | 1 | 20 |
| Methylcyclohexane | 50.0 | 56.2 | | ug/L | | 112 | 75 - 127 | 0 | 30 |
| 1,2-Dichloropropane | 50.0 | 52.4 | | ug/L | | 105 | 80 - 123 | 1 | 20 |
| Bromodichloromethane | 50.0 | 53.3 | | ug/L | | 107 | 77 - 129 | 2 | 20 |
| cis-1,3-Dichloropropene | 50.0 | 52.6 | | ug/L | | 105 | 80 - 133 | 0 | 20 |
| 4-Methyl-2-pentanone | 250 | 229 | | ug/L | | 91 | 75 - 135 | 1 | 30 |
| Toluene | 50.0 | 55.6 | | ug/L | | 111 | 80 - 122 | 1 | 20 |
| trans-1,3-Dichloropropene | 50.0 | 49.9 | | ug/L | | 100 | 74 - 140 | 2 | 20 |
| 1,1,2-Trichloroethane | 50.0 | 51.0 | | ug/L | | 102 | 79 - 125 | 1 | 20 |
| Tetrachloroethene | 50.0 | 50.2 | | ug/L | | 100 | 77 - 123 | 0 | 20 |
| 2-Hexanone | 250 | 222 | | ug/L | | 89 | 70 - 141 | 2 | 40 |
| Dibromochloromethane | 50.0 | 43.5 | | ug/L | | 87 | 71 - 136 | 1 | 20 |
| 1,2-Dibromoethane | 50.0 | 53.1 | | ug/L | | 106 | 77 - 131 | 1 | 30 |
| Chlorobenzene | 50.0 | 54.3 | | ug/L | | 109 | 80 - 120 | 1 | 20 |
| Ethylbenzene | 50.0 | 54.0 | | ug/L | | 108 | 80 - 120 | 1 | 20 |
| Xylenes, Total | 100 | 106 | | ug/L | | 106 | 80 - 120 | 1 | 20 |
| Styrene | 50.0 | 54.2 | | ug/L | | 108 | 80 - 122 | 1 | 20 |
| Bromoform | 50.0 | 40.2 | | ug/L | | 80 | 69 - 135 | 0 | 20 |
| Isopropylbenzene | 50.0 | 55.2 | | ug/L | | 110 | 80 - 120 | 1 | 20 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 49.7 | | ug/L | | 99 | 72 - 128 | 0 | 20 |
| 1,3-Dichlorobenzene | 50.0 | 50.9 | | ug/L | | 102 | 80 - 120 | 0 | 20 |
| 1,4-Dichlorobenzene | 50.0 | 51.2 | | ug/L | | 102 | 80 - 120 | 0 | 20 |
| 1,2-Dichlorobenzene | 50.0 | 51.0 | | ug/L | | 102 | 80 - 120 | 1 | 20 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 35.2 | | ug/L | | 70 | 59 - 141 | 1 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-405239/5**
**Matrix: Water**
**Analysis Batch: 405239**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | | | 50.0 | 44.8 | | ug/L | | 90 | 77 - 131 | 2 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *111* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *99* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *111* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* |

**Lab Sample ID: MB 680-405241/9**
**Matrix: Water**
**Analysis Batch: 405241**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/12/15 12:01 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/12/15 12:01 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 12:01 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 12:01 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 12:01 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/12/15 12:01 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/12/15 12:01 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/12/15 12:01 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/12/15 12:01 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 12:01 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 12:01 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/12/15 12:01 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/12/15 12:01 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/12/15 12:01 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 12:01 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/12/15 12:01 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 12:01 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/12/15 12:01 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 12:01 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/12/15 12:01 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 12:01 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/12/15 12:01 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/12/15 12:01 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/12/15 12:01 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 12:01 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/12/15 12:01 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/12/15 12:01 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/12/15 12:01 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-405241/9**
**Matrix: Water**
**Analysis Batch: 405241**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/12/15 12:01 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/12/15 12:01 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/12/15 12:01 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/12/15 12:01 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/12/15 12:01 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 12:01 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/12/15 12:01 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/12/15 12:01 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *104* | | *70 - 130* | | *10/12/15 12:01* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *70 - 130* | | *10/12/15 12:01* | *1* |
| *Dibromofluoromethane (Surr)* | *100* | | *70 - 130* | | *10/12/15 12:01* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *10/12/15 12:01* | *1* |

**Lab Sample ID: LCS 680-405241/4**
**Matrix: Water**
**Analysis Batch: 405241**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 58.2 | | ug/L | | 116 | 51 - 140 |
| Chloromethane | 50.0 | 64.7 | * | ug/L | | 129 | 63 - 126 |
| Vinyl chloride | 50.0 | 51.6 | | ug/L | | 103 | 68 - 132 |
| Bromomethane | 50.0 | 97.3 | * | ug/L | | 195 | 20 - 180 |
| Chloroethane | 50.0 | 60.9 | | ug/L | | 122 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 55.1 | | ug/L | | 110 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 50.9 | | ug/L | | 102 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 53.1 | | ug/L | | 106 | 65 - 131 |
| Acetone | 250 | 203 | | ug/L | | 81 | 60 - 154 |
| Carbon disulfide | 50.0 | 50.5 | | ug/L | | 101 | 73 - 127 |
| Methyl acetate | 250 | 224 | | ug/L | | 90 | 66 - 134 |
| Methylene Chloride | 50.0 | 48.8 | | ug/L | | 98 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 51.2 | | ug/L | | 102 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 47.6 | | ug/L | | 95 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 50.5 | | ug/L | | 101 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 52.2 | | ug/L | | 104 | 80 - 122 |
| 2-Butanone | 250 | 202 | | ug/L | | 81 | 75 - 133 |
| Chloroform | 50.0 | 50.2 | | ug/L | | 100 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 43.7 | | ug/L | | 87 | 74 - 128 |
| Cyclohexane | 50.0 | 52.9 | | ug/L | | 106 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 46.2 | | ug/L | | 92 | 75 - 130 |
| Benzene | 50.0 | 50.7 | | ug/L | | 101 | 73 - 131 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-405241/4**
**Matrix: Water**
**Analysis Batch: 405241**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 50.0 | 49.9 | | ug/L | | 100 | 75 - 130 |
| Trichloroethene | 50.0 | 59.0 | | ug/L | | 118 | 80 - 123 |
| Methylcyclohexane | 50.0 | 53.2 | | ug/L | | 106 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 53.3 | | ug/L | | 107 | 80 - 123 |
| Bromodichloromethane | 50.0 | 53.2 | | ug/L | | 106 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 55.8 | | ug/L | | 112 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 234 | | ug/L | | 94 | 75 - 135 |
| Toluene | 50.0 | 54.7 | | ug/L | | 109 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 45.5 | | ug/L | | 91 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 52.2 | | ug/L | | 104 | 79 - 125 |
| Tetrachloroethene | 50.0 | 65.0 | * | ug/L | | 130 | 77 - 123 |
| 2-Hexanone | 250 | 231 | | ug/L | | 92 | 70 - 141 |
| Dibromochloromethane | 50.0 | 49.1 | | ug/L | | 98 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 57.7 | | ug/L | | 115 | 77 - 131 |
| Chlorobenzene | 50.0 | 55.2 | | ug/L | | 110 | 80 - 120 |
| Ethylbenzene | 50.0 | 53.7 | | ug/L | | 107 | 80 - 120 |
| Xylenes, Total | 100 | 108 | | ug/L | | 108 | 80 - 120 |
| Styrene | 50.0 | 49.3 | | ug/L | | 99 | 80 - 122 |
| Bromoform | 50.0 | 50.0 | | ug/L | | 100 | 69 - 135 |
| Isopropylbenzene | 50.0 | 60.2 | | ug/L | | 120 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 51.1 | | ug/L | | 102 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 50.9 | | ug/L | | 102 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 49.3 | | ug/L | | 99 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 50.1 | | ug/L | | 100 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 42.9 | | ug/L | | 86 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 53.1 | | ug/L | | 106 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *104* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *84* | | *70 - 130* |

**Lab Sample ID: LCSD 680-405241/5**
**Matrix: Water**
**Analysis Batch: 405241**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 58.6 | | ug/L | | 117 | 51 - 140 | 1 | 40 |
| Chloromethane | 50.0 | 64.4 | * | ug/L | | 129 | 63 - 126 | 0 | 30 |
| Vinyl chloride | 50.0 | 51.4 | | ug/L | | 103 | 68 - 132 | 1 | 30 |
| Bromomethane | 50.0 | 91.9 | * | ug/L | | 184 | 20 - 180 | 6 | 40 |
| Chloroethane | 50.0 | 58.1 | | ug/L | | 116 | 50 - 151 | 5 | 30 |
| Trichlorofluoromethane | 50.0 | 54.2 | | ug/L | | 108 | 58 - 145 | 2 | 30 |
| 1,1-Dichloroethene | 50.0 | 50.1 | | ug/L | | 100 | 74 - 125 | 2 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 54.5 | | ug/L | | 109 | 65 - 131 | 3 | 30 |
| Acetone | 250 | 203 | | ug/L | | 81 | 60 - 154 | 0 | 40 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-405241/5**
**Matrix: Water**
**Analysis Batch: 405241**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | | | 50.0 | 50.6 | | ug/L | | 101 | 73 - 127 | 0 | 20 |
| Methyl acetate | | | 250 | 220 | | ug/L | | 88 | 66 - 134 | 2 | 30 |
| Methylene Chloride | | | 50.0 | 48.1 | | ug/L | | 96 | 76 - 129 | 1 | 20 |
| trans-1,2-Dichloroethene | | | 50.0 | 51.3 | | ug/L | | 103 | 78 - 123 | 0 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 47.6 | | ug/L | | 95 | 74 - 135 | 0 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 49.7 | | ug/L | | 99 | 80 - 120 | 1 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 52.1 | | ug/L | | 104 | 80 - 122 | 0 | 20 |
| 2-Butanone | | | 250 | 211 | | ug/L | | 84 | 75 - 133 | 4 | 30 |
| Chloroform | | | 50.0 | 49.8 | | ug/L | | 100 | 79 - 122 | 1 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 43.9 | | ug/L | | 88 | 74 - 128 | 0 | 20 |
| Cyclohexane | | | 50.0 | 53.1 | | ug/L | | 106 | 69 - 130 | 0 | 30 |
| Carbon tetrachloride | | | 50.0 | 47.7 | | ug/L | | 95 | 75 - 130 | 3 | 20 |
| Benzene | | | 50.0 | 51.1 | | ug/L | | 102 | 73 - 131 | 1 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 50.3 | | ug/L | | 101 | 75 - 130 | 1 | 20 |
| Trichloroethene | | | 50.0 | 59.2 | | ug/L | | 118 | 80 - 123 | 0 | 20 |
| Methylcyclohexane | | | 50.0 | 53.9 | | ug/L | | 108 | 75 - 127 | 1 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 52.5 | | ug/L | | 105 | 80 - 123 | 1 | 20 |
| Bromodichloromethane | | | 50.0 | 52.2 | | ug/L | | 104 | 77 - 129 | 2 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 54.6 | | ug/L | | 109 | 80 - 133 | 2 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 229 | | ug/L | | 92 | 75 - 135 | 2 | 30 |
| Toluene | | | 50.0 | 53.9 | | ug/L | | 108 | 80 - 122 | 1 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 44.6 | | ug/L | | 89 | 74 - 140 | 2 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 50.8 | | ug/L | | 102 | 79 - 125 | 3 | 20 |
| Tetrachloroethene | | | 50.0 | 65.3 | * | ug/L | | 131 | 77 - 123 | 0 | 20 |
| 2-Hexanone | | | 250 | 231 | | ug/L | | 93 | 70 - 141 | 0 | 40 |
| Dibromochloromethane | | | 50.0 | 48.7 | | ug/L | | 97 | 71 - 136 | 1 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 57.0 | | ug/L | | 114 | 77 - 131 | 1 | 30 |
| Chlorobenzene | | | 50.0 | 54.7 | | ug/L | | 109 | 80 - 120 | 1 | 20 |
| Ethylbenzene | | | 50.0 | 53.2 | | ug/L | | 106 | 80 - 120 | 1 | 20 |
| Xylenes, Total | | | 100 | 107 | | ug/L | | 107 | 80 - 120 | 1 | 20 |
| Styrene | | | 50.0 | 48.6 | | ug/L | | 97 | 80 - 122 | 1 | 20 |
| Bromoform | | | 50.0 | 50.3 | | ug/L | | 101 | 69 - 135 | 1 | 20 |
| Isopropylbenzene | | | 50.0 | 59.2 | | ug/L | | 118 | 80 - 120 | 2 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 50.0 | | ug/L | | 100 | 72 - 128 | 2 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 51.2 | | ug/L | | 102 | 80 - 120 | 1 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 49.8 | | ug/L | | 100 | 80 - 120 | 1 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 50.6 | | ug/L | | 101 | 80 - 120 | 1 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 42.6 | | ug/L | | 85 | 59 - 141 | 1 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 53.7 | | ug/L | | 107 | 77 - 131 | 1 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *102* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *83* | | *70 - 130* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-405400/9**
**Matrix: Water**
**Analysis Batch: 405400**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/13/15 09:26 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/13/15 09:26 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/13/15 09:26 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 09:26 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 09:26 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/13/15 09:26 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/13/15 09:26 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/13/15 09:26 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/13/15 09:26 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 09:26 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/13/15 09:26 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/13/15 09:26 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/13/15 09:26 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/13/15 09:26 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/13/15 09:26 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/13/15 09:26 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/13/15 09:26 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/13/15 09:26 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/13/15 09:26 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/13/15 09:26 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/13/15 09:26 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/13/15 09:26 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/13/15 09:26 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/13/15 09:26 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/13/15 09:26 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/13/15 09:26 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/13/15 09:26 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/13/15 09:26 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/13/15 09:26 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/13/15 09:26 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/13/15 09:26 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/13/15 09:26 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 09:26 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/13/15 09:26 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 09:26 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-405400/9**
**Matrix: Water**
**Analysis Batch: 405400**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 105 | | 70 - 130 | | 10/13/15 09:26 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 109 | | 70 - 130 | | 10/13/15 09:26 | 1 |
| Dibromofluoromethane (Surr) | 110 | | 70 - 130 | | 10/13/15 09:26 | 1 |
| 4-Bromofluorobenzene (Surr) | 100 | | 70 - 130 | | 10/13/15 09:26 | 1 |

**Lab Sample ID: LCS 680-405400/4**
**Matrix: Water**
**Analysis Batch: 405400**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 56.7 | | ug/L | | 113 | 51 - 140 |
| Chloromethane | 50.0 | 54.9 | | ug/L | | 110 | 63 - 126 |
| Vinyl chloride | 50.0 | 54.6 | | ug/L | | 109 | 68 - 132 |
| Bromomethane | 50.0 | 53.2 | | ug/L | | 106 | 20 - 180 |
| Chloroethane | 50.0 | 53.7 | | ug/L | | 107 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 61.4 | | ug/L | | 123 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 53.4 | | ug/L | | 107 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 57.6 | | ug/L | | 115 | 65 - 131 |
| Acetone | 250 | 219 | | ug/L | | 88 | 60 - 154 |
| Carbon disulfide | 50.0 | 52.3 | | ug/L | | 105 | 73 - 127 |
| Methyl acetate | 250 | 238 | | ug/L | | 95 | 66 - 134 |
| Methylene Chloride | 50.0 | 51.2 | | ug/L | | 102 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 50.8 | | ug/L | | 102 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 50.9 | | ug/L | | 102 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 53.5 | | ug/L | | 107 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 54.7 | | ug/L | | 109 | 80 - 122 |
| 2-Butanone | 250 | 226 | | ug/L | | 90 | 75 - 133 |
| Chloroform | 50.0 | 54.6 | | ug/L | | 109 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 60.8 | | ug/L | | 122 | 74 - 128 |
| Cyclohexane | 50.0 | 51.6 | | ug/L | | 103 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 66.9 | * | ug/L | | 134 | 75 - 130 |
| Benzene | 50.0 | 49.8 | | ug/L | | 100 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 56.0 | | ug/L | | 112 | 75 - 130 |
| Trichloroethene | 50.0 | 55.5 | | ug/L | | 111 | 80 - 123 |
| Methylcyclohexane | 50.0 | 52.4 | | ug/L | | 105 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 51.7 | | ug/L | | 103 | 80 - 123 |
| Bromodichloromethane | 50.0 | 57.4 | | ug/L | | 115 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 56.0 | | ug/L | | 112 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 239 | | ug/L | | 96 | 75 - 135 |
| Toluene | 50.0 | 50.7 | | ug/L | | 101 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 58.3 | | ug/L | | 117 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 50.0 | | ug/L | | 100 | 79 - 125 |
| Tetrachloroethene | 50.0 | 54.9 | | ug/L | | 110 | 77 - 123 |
| 2-Hexanone | 250 | 238 | | ug/L | | 95 | 70 - 141 |
| Dibromochloromethane | 50.0 | 61.3 | | ug/L | | 123 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 49.9 | | ug/L | | 100 | 77 - 131 |
| Chlorobenzene | 50.0 | 50.1 | | ug/L | | 100 | 80 - 120 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-405400/4**
**Matrix: Water**
**Analysis Batch: 405400**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Ethylbenzene | 50.0 | 49.8 | | ug/L | | 100 | 80 - 120 |
| Xylenes, Total | 100 | 102 | | ug/L | | 102 | 80 - 120 |
| Styrene | 50.0 | 50.2 | | ug/L | | 100 | 80 - 122 |
| Bromoform | 50.0 | 58.7 | | ug/L | | 117 | 69 - 135 |
| Isopropylbenzene | 50.0 | 51.5 | | ug/L | | 103 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 45.7 | | ug/L | | 91 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 52.0 | | ug/L | | 104 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 50.0 | | ug/L | | 100 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 51.7 | | ug/L | | 103 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 50.4 | | ug/L | | 101 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 55.4 | | ug/L | | 111 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *112* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *112* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* |

**Lab Sample ID: LCSD 680-405400/5**
**Matrix: Water**
**Analysis Batch: 405400**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 55.1 | | ug/L | | 110 | 51 - 140 | 3 | 40 |
| Chloromethane | 50.0 | 53.8 | | ug/L | | 108 | 63 - 126 | 2 | 30 |
| Vinyl chloride | 50.0 | 53.6 | | ug/L | | 107 | 68 - 132 | 2 | 30 |
| Bromomethane | 50.0 | 57.6 | | ug/L | | 115 | 20 - 180 | 8 | 40 |
| Chloroethane | 50.0 | 55.0 | | ug/L | | 110 | 50 - 151 | 2 | 30 |
| Trichlorofluoromethane | 50.0 | 59.9 | | ug/L | | 120 | 58 - 145 | 3 | 30 |
| 1,1-Dichloroethene | 50.0 | 52.9 | | ug/L | | 106 | 74 - 125 | 1 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 55.6 | | ug/L | | 111 | 65 - 131 | 4 | 30 |
| Acetone | 250 | 226 | | ug/L | | 90 | 60 - 154 | 3 | 40 |
| Carbon disulfide | 50.0 | 51.6 | | ug/L | | 103 | 73 - 127 | 1 | 20 |
| Methyl acetate | 250 | 246 | | ug/L | | 99 | 66 - 134 | 3 | 30 |
| Methylene Chloride | 50.0 | 51.4 | | ug/L | | 103 | 76 - 129 | 0 | 20 |
| trans-1,2-Dichloroethene | 50.0 | 52.2 | | ug/L | | 104 | 78 - 123 | 3 | 20 |
| Methyl tert-butyl ether | 50.0 | 52.5 | | ug/L | | 105 | 74 - 135 | 3 | 20 |
| 1,1-Dichloroethane | 50.0 | 53.0 | | ug/L | | 106 | 80 - 120 | 1 | 20 |
| cis-1,2-Dichloroethene | 50.0 | 55.5 | | ug/L | | 111 | 80 - 122 | 1 | 20 |
| 2-Butanone | 250 | 239 | | ug/L | | 96 | 75 - 133 | 6 | 30 |
| Chloroform | 50.0 | 55.4 | | ug/L | | 111 | 79 - 122 | 1 | 20 |
| 1,1,1-Trichloroethane | 50.0 | 59.8 | | ug/L | | 120 | 74 - 128 | 2 | 20 |
| Cyclohexane | 50.0 | 50.4 | | ug/L | | 101 | 69 - 130 | 2 | 30 |
| Carbon tetrachloride | 50.0 | 66.1 | * | ug/L | | 132 | 75 - 130 | 1 | 20 |
| Benzene | 50.0 | 49.6 | | ug/L | | 99 | 73 - 131 | 0 | 30 |
| 1,2-Dichloroethane | 50.0 | 57.2 | | ug/L | | 114 | 75 - 130 | 2 | 20 |
| Trichloroethene | 50.0 | 53.1 | | ug/L | | 106 | 80 - 123 | 4 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-405400/5**
**Matrix: Water**
**Analysis Batch: 405400**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Methylcyclohexane | | | 50.0 | 51.1 | | ug/L | | 102 | 75 - 127 | 3 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 51.4 | | ug/L | | 103 | 80 - 123 | 1 | 20 |
| Bromodichloromethane | | | 50.0 | 59.0 | | ug/L | | 118 | 77 - 129 | 3 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 56.7 | | ug/L | | 113 | 80 - 133 | 1 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 247 | | ug/L | | 99 | 75 - 135 | 3 | 30 |
| Toluene | | | 50.0 | 51.5 | | ug/L | | 103 | 80 - 122 | 2 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 59.4 | | ug/L | | 119 | 74 - 140 | 2 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 51.0 | | ug/L | | 102 | 79 - 125 | 2 | 20 |
| Tetrachloroethene | | | 50.0 | 53.6 | | ug/L | | 107 | 77 - 123 | 2 | 20 |
| 2-Hexanone | | | 250 | 247 | | ug/L | | 99 | 70 - 141 | 4 | 40 |
| Dibromochloromethane | | | 50.0 | 61.8 | | ug/L | | 124 | 71 - 136 | 1 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 52.2 | | ug/L | | 104 | 77 - 131 | 4 | 30 |
| Chlorobenzene | | | 50.0 | 49.8 | | ug/L | | 100 | 80 - 120 | 1 | 20 |
| Ethylbenzene | | | 50.0 | 49.1 | | ug/L | | 98 | 80 - 120 | 1 | 20 |
| Xylenes, Total | | | 100 | 102 | | ug/L | | 102 | 80 - 120 | 0 | 20 |
| Styrene | | | 50.0 | 50.3 | | ug/L | | 101 | 80 - 122 | 0 | 20 |
| Bromoform | | | 50.0 | 60.1 | | ug/L | | 120 | 69 - 135 | 2 | 20 |
| Isopropylbenzene | | | 50.0 | 51.0 | | ug/L | | 102 | 80 - 120 | 1 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 46.1 | | ug/L | | 92 | 72 - 128 | 1 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 50.5 | | ug/L | | 101 | 80 - 120 | 3 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 50.3 | | ug/L | | 101 | 80 - 120 | 1 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 51.7 | | ug/L | | 103 | 80 - 120 | 0 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 51.2 | | ug/L | | 102 | 59 - 141 | 2 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 57.0 | | ug/L | | 114 | 77 - 131 | 3 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *115* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *113* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* |

**Lab Sample ID: MB 680-405413/9**
**Matrix: Water**
**Analysis Batch: 405413**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/13/15 09:51 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/13/15 09:51 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/13/15 09:51 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 09:51 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 09:51 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/13/15 09:51 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/13/15 09:51 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/13/15 09:51 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/13/15 09:51 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 09:51 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-405413/9**
**Matrix: Water**
**Analysis Batch: 405413**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/13/15 09:51 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/13/15 09:51 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/13/15 09:51 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/13/15 09:51 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/13/15 09:51 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/13/15 09:51 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/13/15 09:51 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/13/15 09:51 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/13/15 09:51 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/13/15 09:51 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/13/15 09:51 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/13/15 09:51 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/13/15 09:51 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/13/15 09:51 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/13/15 09:51 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/13/15 09:51 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/13/15 09:51 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/13/15 09:51 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/13/15 09:51 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/13/15 09:51 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/13/15 09:51 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/13/15 09:51 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 09:51 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/13/15 09:51 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/13/15 09:51 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *10/13/15 09:51* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* | | *10/13/15 09:51* | *1* |
| *Dibromofluoromethane (Surr)* | *113* | | *70 - 130* | | *10/13/15 09:51* | *1* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* | | *10/13/15 09:51* | *1* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-405413/4**
**Matrix: Water**
**Analysis Batch: 405413**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 47.3 | | ug/L | | 95 | 51 - 140 |
| Chloromethane | 50.0 | 53.6 | | ug/L | | 107 | 63 - 126 |
| Vinyl chloride | 50.0 | 44.7 | | ug/L | | 89 | 68 - 132 |
| Bromomethane | 50.0 | 70.6 | | ug/L | | 141 | 20 - 180 |
| Chloroethane | 50.0 | 47.2 | | ug/L | | 94 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 49.5 | | ug/L | | 99 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 49.9 | | ug/L | | 100 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 53.2 | | ug/L | | 106 | 65 - 131 |
| Acetone | 250 | 256 | | ug/L | | 103 | 60 - 154 |
| Carbon disulfide | 50.0 | 52.3 | | ug/L | | 105 | 73 - 127 |
| Methyl acetate | 250 | 245 | | ug/L | | 98 | 66 - 134 |
| Methylene Chloride | 50.0 | 53.4 | | ug/L | | 107 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 53.2 | | ug/L | | 106 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 50.8 | | ug/L | | 102 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 47.7 | | ug/L | | 95 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 46.5 | | ug/L | | 93 | 80 - 122 |
| 2-Butanone | 250 | 230 | | ug/L | | 92 | 75 - 133 |
| Chloroform | 50.0 | 46.0 | | ug/L | | 92 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 48.5 | | ug/L | | 97 | 74 - 128 |
| Cyclohexane | 50.0 | 46.7 | | ug/L | | 93 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 52.1 | | ug/L | | 104 | 75 - 130 |
| Benzene | 50.0 | 44.8 | | ug/L | | 90 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 46.2 | | ug/L | | 92 | 75 - 130 |
| Trichloroethene | 50.0 | 45.6 | | ug/L | | 91 | 80 - 123 |
| Methylcyclohexane | 50.0 | 45.9 | | ug/L | | 92 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 43.2 | | ug/L | | 86 | 80 - 123 |
| Bromodichloromethane | 50.0 | 47.2 | | ug/L | | 94 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 47.2 | | ug/L | | 94 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 216 | | ug/L | | 86 | 75 - 135 |
| Toluene | 50.0 | 47.1 | | ug/L | | 94 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 51.6 | | ug/L | | 103 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 50.4 | | ug/L | | 101 | 79 - 125 |
| Tetrachloroethene | 50.0 | 53.9 | | ug/L | | 108 | 77 - 123 |
| 2-Hexanone | 250 | 252 | | ug/L | | 101 | 70 - 141 |
| Dibromochloromethane | 50.0 | 53.4 | | ug/L | | 107 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 52.0 | | ug/L | | 104 | 77 - 131 |
| Chlorobenzene | 50.0 | 48.4 | | ug/L | | 97 | 80 - 120 |
| Ethylbenzene | 50.0 | 48.7 | | ug/L | | 97 | 80 - 120 |
| Xylenes, Total | 100 | 98.2 | | ug/L | | 98 | 80 - 120 |
| Styrene | 50.0 | 48.8 | | ug/L | | 98 | 80 - 122 |
| Bromoform | 50.0 | 51.5 | | ug/L | | 103 | 69 - 135 |
| Isopropylbenzene | 50.0 | 49.8 | | ug/L | | 100 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 45.6 | | ug/L | | 91 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 48.3 | | ug/L | | 97 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 47.2 | | ug/L | | 94 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 46.0 | | ug/L | | 92 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 42.8 | | ug/L | | 86 | 59 - 141 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-405413/4**
**Matrix: Water**
**Analysis Batch: 405413**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | | | 50.0 | 46.7 | | ug/L | | 93 | 77 - 131 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *89* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *91* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *70 - 130* |

**Lab Sample ID: LCSD 680-405413/5**
**Matrix: Water**
**Analysis Batch: 405413**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | | | 50.0 | 45.8 | | ug/L | | 92 | 51 - 140 | 3 | 40 |
| Chloromethane | | | 50.0 | 51.0 | | ug/L | | 102 | 63 - 126 | 5 | 30 |
| Vinyl chloride | | | 50.0 | 52.3 | | ug/L | | 105 | 68 - 132 | 16 | 30 |
| Bromomethane | | | 50.0 | 71.4 | | ug/L | | 143 | 20 - 180 | 1 | 40 |
| Chloroethane | | | 50.0 | 50.3 | | ug/L | | 101 | 50 - 151 | 6 | 30 |
| Trichlorofluoromethane | | | 50.0 | 50.9 | | ug/L | | 102 | 58 - 145 | 3 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 53.5 | | ug/L | | 107 | 74 - 125 | 7 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 49.0 | | ug/L | | 98 | 65 - 131 | 8 | 30 |
| Acetone | | | 250 | 271 | | ug/L | | 108 | 60 - 154 | 6 | 40 |
| Carbon disulfide | | | 50.0 | 53.2 | | ug/L | | 106 | 73 - 127 | 2 | 20 |
| Methyl acetate | | | 250 | 250 | | ug/L | | 100 | 66 - 134 | 2 | 30 |
| Methylene Chloride | | | 50.0 | 52.9 | | ug/L | | 106 | 76 - 129 | 1 | 20 |
| trans-1,2-Dichloroethene | | | 50.0 | 51.5 | | ug/L | | 103 | 78 - 123 | 3 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 52.1 | | ug/L | | 104 | 74 - 135 | 3 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 51.1 | | ug/L | | 102 | 80 - 120 | 7 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 50.3 | | ug/L | | 101 | 80 - 122 | 8 | 20 |
| 2-Butanone | | | 250 | 261 | | ug/L | | 104 | 75 - 133 | 13 | 30 |
| Chloroform | | | 50.0 | 52.4 | | ug/L | | 105 | 79 - 122 | 13 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 52.0 | | ug/L | | 104 | 74 - 128 | 7 | 20 |
| Cyclohexane | | | 50.0 | 51.0 | | ug/L | | 102 | 69 - 130 | 9 | 30 |
| Carbon tetrachloride | | | 50.0 | 52.6 | | ug/L | | 105 | 75 - 130 | 1 | 20 |
| Benzene | | | 50.0 | 50.9 | | ug/L | | 102 | 73 - 131 | 13 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 50.1 | | ug/L | | 100 | 75 - 130 | 8 | 20 |
| Trichloroethene | | | 50.0 | 45.7 | | ug/L | | 91 | 80 - 123 | 0 | 20 |
| Methylcyclohexane | | | 50.0 | 46.4 | | ug/L | | 93 | 75 - 127 | 1 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 45.1 | | ug/L | | 90 | 80 - 123 | 4 | 20 |
| Bromodichloromethane | | | 50.0 | 46.1 | | ug/L | | 92 | 77 - 129 | 2 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 47.2 | | ug/L | | 94 | 80 - 133 | 0 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 219 | | ug/L | | 88 | 75 - 135 | 1 | 30 |
| Toluene | | | 50.0 | 47.6 | | ug/L | | 95 | 80 - 122 | 1 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 46.6 | | ug/L | | 93 | 74 - 140 | 10 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 43.4 | | ug/L | | 87 | 79 - 125 | 15 | 20 |
| Tetrachloroethene | | | 50.0 | 44.9 | | ug/L | | 90 | 77 - 123 | 18 | 20 |
| 2-Hexanone | | | 250 | 211 | | ug/L | | 84 | 70 - 141 | 18 | 40 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-405413/5**
**Matrix: Water**
**Analysis Batch: 405413**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dibromochloromethane | | | 50.0 | 48.3 | | ug/L | | 97 | 71 - 136 | 10 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 46.3 | | ug/L | | 93 | 77 - 131 | 11 | 30 |
| Chlorobenzene | | | 50.0 | 49.3 | | ug/L | | 99 | 80 - 120 | 2 | 20 |
| Ethylbenzene | | | 50.0 | 49.7 | | ug/L | | 99 | 80 - 120 | 2 | 20 |
| Xylenes, Total | | | 100 | 106 | | ug/L | | 106 | 80 - 120 | 8 | 20 |
| Styrene | | | 50.0 | 54.4 | | ug/L | | 109 | 80 - 122 | 11 | 20 |
| Bromoform | | | 50.0 | 59.4 | | ug/L | | 119 | 69 - 135 | 14 | 20 |
| Isopropylbenzene | | | 50.0 | 54.9 | | ug/L | | 110 | 80 - 120 | 10 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 53.6 | | ug/L | | 107 | 72 - 128 | 16 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 49.6 | | ug/L | | 99 | 80 - 120 | 3 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 48.5 | | ug/L | | 97 | 80 - 120 | 3 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 49.6 | | ug/L | | 99 | 80 - 120 | 8 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 49.1 | | ug/L | | 98 | 59 - 141 | 14 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 44.9 | | ug/L | | 90 | 77 - 131 | 4 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *107* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *106* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |

**Lab Sample ID: MB 680-405604/9**
**Matrix: Water**
**Analysis Batch: 405604**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/14/15 09:35 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/14/15 09:35 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/14/15 09:35 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/14/15 09:35 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/14/15 09:35 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/14/15 09:35 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/14/15 09:35 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/14/15 09:35 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/14/15 09:35 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/14/15 09:35 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/14/15 09:35 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/14/15 09:35 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/14/15 09:35 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/14/15 09:35 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/14/15 09:35 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/14/15 09:35 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/14/15 09:35 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/14/15 09:35 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-405604/9**
**Matrix: Water**
**Analysis Batch: 405604**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/14/15 09:35 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/14/15 09:35 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/14/15 09:35 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/14/15 09:35 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/14/15 09:35 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/14/15 09:35 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/14/15 09:35 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/14/15 09:35 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/14/15 09:35 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/14/15 09:35 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/14/15 09:35 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/14/15 09:35 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/14/15 09:35 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/14/15 09:35 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/14/15 09:35 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/14/15 09:35 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/14/15 09:35 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/14/15 09:35 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *10/14/15 09:35* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* | | *10/14/15 09:35* | *1* |
| *Dibromofluoromethane (Surr)* | *109* | | *70 - 130* | | *10/14/15 09:35* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *10/14/15 09:35* | *1* |

**Lab Sample ID: LCS 680-405604/4**
**Matrix: Water**
**Analysis Batch: 405604**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 53.7 | | ug/L | | 107 | 51 - 140 |
| Chloromethane | 50.0 | 53.8 | | ug/L | | 108 | 63 - 126 |
| Vinyl chloride | 50.0 | 52.0 | | ug/L | | 104 | 68 - 132 |
| Bromomethane | 50.0 | 52.8 | | ug/L | | 106 | 20 - 180 |
| Chloroethane | 50.0 | 53.9 | | ug/L | | 108 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 58.4 | | ug/L | | 117 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 50.4 | | ug/L | | 101 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 53.3 | | ug/L | | 107 | 65 - 131 |
| Acetone | 250 | 214 | | ug/L | | 85 | 60 - 154 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-405604/4**
**Matrix: Water**
**Analysis Batch: 405604**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Carbon disulfide | 50.0 | 49.9 | | ug/L | | 100 | 73 - 127 |
| Methyl acetate | 250 | 234 | | ug/L | | 94 | 66 - 134 |
| Methylene Chloride | 50.0 | 52.2 | | ug/L | | 104 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 50.1 | | ug/L | | 100 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 51.5 | | ug/L | | 103 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 53.7 | | ug/L | | 107 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 55.5 | | ug/L | | 111 | 80 - 122 |
| 2-Butanone | 250 | 227 | | ug/L | | 91 | 75 - 133 |
| Chloroform | 50.0 | 55.0 | | ug/L | | 110 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 59.0 | | ug/L | | 118 | 74 - 128 |
| Cyclohexane | 50.0 | 48.7 | | ug/L | | 97 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 64.2 | | ug/L | | 128 | 75 - 130 |
| Benzene | 50.0 | 49.5 | | ug/L | | 99 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 56.9 | | ug/L | | 114 | 75 - 130 |
| Trichloroethene | 50.0 | 53.7 | | ug/L | | 107 | 80 - 123 |
| Methylcyclohexane | 50.0 | 48.5 | | ug/L | | 97 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 51.7 | | ug/L | | 103 | 80 - 123 |
| Bromodichloromethane | 50.0 | 59.2 | | ug/L | | 118 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 56.4 | | ug/L | | 113 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 241 | | ug/L | | 96 | 75 - 135 |
| Toluene | 50.0 | 50.9 | | ug/L | | 102 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 60.0 | | ug/L | | 120 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 51.1 | | ug/L | | 102 | 79 - 125 |
| Tetrachloroethene | 50.0 | 53.1 | | ug/L | | 106 | 77 - 123 |
| 2-Hexanone | 250 | 236 | | ug/L | | 94 | 70 - 141 |
| Dibromochloromethane | 50.0 | 61.1 | | ug/L | | 122 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 51.5 | | ug/L | | 103 | 77 - 131 |
| Chlorobenzene | 50.0 | 50.2 | | ug/L | | 100 | 80 - 120 |
| Ethylbenzene | 50.0 | 49.6 | | ug/L | | 99 | 80 - 120 |
| Xylenes, Total | 100 | 103 | | ug/L | | 103 | 80 - 120 |
| Styrene | 50.0 | 50.5 | | ug/L | | 101 | 80 - 122 |
| Bromoform | 50.0 | 59.4 | | ug/L | | 119 | 69 - 135 |
| Isopropylbenzene | 50.0 | 50.9 | | ug/L | | 102 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 44.4 | | ug/L | | 89 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 50.5 | | ug/L | | 101 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 50.0 | | ug/L | | 100 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 51.0 | | ug/L | | 102 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 49.0 | | ug/L | | 98 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 53.6 | | ug/L | | 107 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *116* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *114* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-405604/5**
**Matrix: Water**
**Analysis Batch: 405604**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 54.0 | | ug/L | | 108 | 51 - 140 | 1 | 40 |
| Chloromethane | 50.0 | 53.9 | | ug/L | | 108 | 63 - 126 | 0 | 30 |
| Vinyl chloride | 50.0 | 52.8 | | ug/L | | 106 | 68 - 132 | 1 | 30 |
| Bromomethane | 50.0 | 56.5 | | ug/L | | 113 | 20 - 180 | 7 | 40 |
| Chloroethane | 50.0 | 53.3 | | ug/L | | 107 | 50 - 151 | 1 | 30 |
| Trichlorofluoromethane | 50.0 | 58.5 | | ug/L | | 117 | 58 - 145 | 0 | 30 |
| 1,1-Dichloroethene | 50.0 | 51.0 | | ug/L | | 102 | 74 - 125 | 1 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 54.4 | | ug/L | | 109 | 65 - 131 | 2 | 30 |
| Acetone | 250 | 222 | | ug/L | | 89 | 60 - 154 | 4 | 40 |
| Carbon disulfide | 50.0 | 50.0 | | ug/L | | 100 | 73 - 127 | 0 | 20 |
| Methyl acetate | 250 | 237 | | ug/L | | 95 | 66 - 134 | 1 | 30 |
| Methylene Chloride | 50.0 | 52.2 | | ug/L | | 104 | 76 - 129 | 0 | 20 |
| trans-1,2-Dichloroethene | 50.0 | 50.7 | | ug/L | | 101 | 78 - 123 | 1 | 20 |
| Methyl tert-butyl ether | 50.0 | 52.4 | | ug/L | | 105 | 74 - 135 | 2 | 20 |
| 1,1-Dichloroethane | 50.0 | 53.0 | | ug/L | | 106 | 80 - 120 | 1 | 20 |
| cis-1,2-Dichloroethene | 50.0 | 55.4 | | ug/L | | 111 | 80 - 122 | 0 | 20 |
| 2-Butanone | 250 | 231 | | ug/L | | 92 | 75 - 133 | 2 | 30 |
| Chloroform | 50.0 | 54.9 | | ug/L | | 110 | 79 - 122 | 0 | 20 |
| 1,1,1-Trichloroethane | 50.0 | 59.0 | | ug/L | | 118 | 74 - 128 | 0 | 20 |
| Cyclohexane | 50.0 | 49.9 | | ug/L | | 100 | 69 - 130 | 2 | 30 |
| Carbon tetrachloride | 50.0 | 64.7 | | ug/L | | 129 | 75 - 130 | 1 | 20 |
| Benzene | 50.0 | 50.1 | | ug/L | | 100 | 73 - 131 | 1 | 30 |
| 1,2-Dichloroethane | 50.0 | 57.3 | | ug/L | | 115 | 75 - 130 | 1 | 20 |
| Trichloroethene | 50.0 | 54.0 | | ug/L | | 108 | 80 - 123 | 1 | 20 |
| Methylcyclohexane | 50.0 | 49.3 | | ug/L | | 99 | 75 - 127 | 2 | 30 |
| 1,2-Dichloropropane | 50.0 | 51.6 | | ug/L | | 103 | 80 - 123 | 0 | 20 |
| Bromodichloromethane | 50.0 | 59.3 | | ug/L | | 119 | 77 - 129 | 0 | 20 |
| cis-1,3-Dichloropropene | 50.0 | 56.4 | | ug/L | | 113 | 80 - 133 | 0 | 20 |
| 4-Methyl-2-pentanone | 250 | 240 | | ug/L | | 96 | 75 - 135 | 0 | 30 |
| Toluene | 50.0 | 50.6 | | ug/L | | 101 | 80 - 122 | 1 | 20 |
| trans-1,3-Dichloropropene | 50.0 | 59.7 | | ug/L | | 119 | 74 - 140 | 1 | 20 |
| 1,1,2-Trichloroethane | 50.0 | 50.5 | | ug/L | | 101 | 79 - 125 | 1 | 20 |
| Tetrachloroethene | 50.0 | 52.6 | | ug/L | | 105 | 77 - 123 | 1 | 20 |
| 2-Hexanone | 250 | 238 | | ug/L | | 95 | 70 - 141 | 1 | 40 |
| Dibromochloromethane | 50.0 | 61.5 | | ug/L | | 123 | 71 - 136 | 1 | 20 |
| 1,2-Dibromoethane | 50.0 | 51.7 | | ug/L | | 103 | 77 - 131 | 0 | 30 |
| Chlorobenzene | 50.0 | 50.6 | | ug/L | | 101 | 80 - 120 | 1 | 20 |
| Ethylbenzene | 50.0 | 49.3 | | ug/L | | 99 | 80 - 120 | 1 | 20 |
| Xylenes, Total | 100 | 103 | | ug/L | | 103 | 80 - 120 | 0 | 20 |
| Styrene | 50.0 | 51.4 | | ug/L | | 103 | 80 - 122 | 2 | 20 |
| Bromoform | 50.0 | 60.3 | | ug/L | | 121 | 69 - 135 | 1 | 20 |
| Isopropylbenzene | 50.0 | 51.0 | | ug/L | | 102 | 80 - 120 | 0 | 20 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 45.9 | | ug/L | | 92 | 72 - 128 | 3 | 20 |
| 1,3-Dichlorobenzene | 50.0 | 50.2 | | ug/L | | 100 | 80 - 120 | 0 | 20 |
| 1,4-Dichlorobenzene | 50.0 | 49.5 | | ug/L | | 99 | 80 - 120 | 1 | 20 |
| 1,2-Dichlorobenzene | 50.0 | 51.4 | | ug/L | | 103 | 80 - 120 | 1 | 20 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 49.5 | | ug/L | | 99 | 59 - 141 | 1 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-405604/5**
**Matrix: Water**
**Analysis Batch: 405604**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | | | 50.0 | 55.3 | | ug/L | | 111 | 77 - 131 | 3 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *114* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *114* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* |

**Lab Sample ID: MB 680-405615/9**
**Matrix: Water**
**Analysis Batch: 405615**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 10/14/15 11:54 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/14/15 11:54 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/14/15 11:54 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/14/15 11:54 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/14/15 11:54 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/14/15 11:54 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 10/14/15 11:54 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 10/14/15 11:54 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 10/14/15 11:54 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/14/15 11:54 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/14/15 11:54 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/14/15 11:54 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/14/15 11:54 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 10/14/15 11:54 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/14/15 11:54 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/14/15 11:54 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/14/15 11:54 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 10/14/15 11:54 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/14/15 11:54 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 10/14/15 11:54 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/14/15 11:54 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/14/15 11:54 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 10/14/15 11:54 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/14/15 11:54 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/14/15 11:54 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 10/14/15 11:54 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 10/14/15 11:54 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/14/15 11:54 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-405615/9**
**Matrix: Water**
**Analysis Batch: 405615**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/14/15 11:54 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 10/14/15 11:54 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/14/15 11:54 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 10/14/15 11:54 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/14/15 11:54 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/14/15 11:54 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 10/14/15 11:54 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 10/14/15 11:54 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *10/14/15 11:54* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *70 - 130* | | *10/14/15 11:54* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *10/14/15 11:54* | *1* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* | | *10/14/15 11:54* | *1* |

**Lab Sample ID: LCS 680-405615/4**
**Matrix: Water**
**Analysis Batch: 405615**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 42.9 | | ug/L | | 86 | 51 - 140 |
| Chloromethane | 50.0 | 39.3 | | ug/L | | 79 | 63 - 126 |
| Vinyl chloride | 50.0 | 45.4 | | ug/L | | 91 | 68 - 132 |
| Bromomethane | 50.0 | 40.3 | | ug/L | | 81 | 20 - 180 |
| Chloroethane | 50.0 | 46.2 | | ug/L | | 92 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 40.6 | | ug/L | | 81 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 53.8 | | ug/L | | 108 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 52.0 | | ug/L | | 104 | 65 - 131 |
| Acetone | 250 | 270 | | ug/L | | 108 | 60 - 154 |
| Carbon disulfide | 50.0 | 48.4 | | ug/L | | 97 | 73 - 127 |
| Methyl acetate | 250 | 283 | | ug/L | | 113 | 66 - 134 |
| Methylene Chloride | 50.0 | 52.0 | | ug/L | | 104 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 50.3 | | ug/L | | 101 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 55.9 | | ug/L | | 112 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 51.4 | | ug/L | | 103 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 51.9 | | ug/L | | 104 | 80 - 122 |
| 2-Butanone | 250 | 262 | | ug/L | | 105 | 75 - 133 |
| Chloroform | 50.0 | 50.4 | | ug/L | | 101 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 53.7 | | ug/L | | 107 | 74 - 128 |
| Cyclohexane | 50.0 | 51.3 | | ug/L | | 103 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 46.7 | | ug/L | | 93 | 75 - 130 |
| Benzene | 50.0 | 50.6 | | ug/L | | 101 | 73 - 131 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-405615/4**
**Matrix: Water**
**Analysis Batch: 405615**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 50.0 | 50.1 | | ug/L | | 100 | 75 - 130 |
| Trichloroethene | 50.0 | 51.9 | | ug/L | | 104 | 80 - 123 |
| Methylcyclohexane | 50.0 | 52.1 | | ug/L | | 104 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 51.1 | | ug/L | | 102 | 80 - 123 |
| Bromodichloromethane | 50.0 | 52.1 | | ug/L | | 104 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 48.3 | | ug/L | | 97 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 269 | | ug/L | | 108 | 75 - 135 |
| Toluene | 50.0 | 51.2 | | ug/L | | 102 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 47.3 | | ug/L | | 95 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 51.3 | | ug/L | | 103 | 79 - 125 |
| Tetrachloroethene | 50.0 | 52.5 | | ug/L | | 105 | 77 - 123 |
| 2-Hexanone | 250 | 274 | | ug/L | | 110 | 70 - 141 |
| Dibromochloromethane | 50.0 | 47.5 | | ug/L | | 95 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 55.5 | | ug/L | | 111 | 77 - 131 |
| Chlorobenzene | 50.0 | 50.6 | | ug/L | | 101 | 80 - 120 |
| Ethylbenzene | 50.0 | 50.7 | | ug/L | | 101 | 80 - 120 |
| Xylenes, Total | 100 | 103 | | ug/L | | 103 | 80 - 120 |
| Styrene | 50.0 | 52.9 | | ug/L | | 106 | 80 - 122 |
| Bromoform | 50.0 | 35.9 | | ug/L | | 72 | 69 - 135 |
| Isopropylbenzene | 50.0 | 53.2 | | ug/L | | 106 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 50.2 | | ug/L | | 100 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 52.1 | | ug/L | | 104 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 50.1 | | ug/L | | 100 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 50.8 | | ug/L | | 102 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 42.6 | | ug/L | | 85 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 55.5 | | ug/L | | 111 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *104* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *102* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *106* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* |

**Lab Sample ID: LCSD 680-405615/5**
**Matrix: Water**
**Analysis Batch: 405615**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 44.5 | | ug/L | | 89 | 51 - 140 | 4 | 40 |
| Chloromethane | 50.0 | 44.2 | | ug/L | | 88 | 63 - 126 | 12 | 30 |
| Vinyl chloride | 50.0 | 46.5 | | ug/L | | 93 | 68 - 132 | 2 | 30 |
| Bromomethane | 50.0 | 42.7 | | ug/L | | 85 | 20 - 180 | 6 | 40 |
| Chloroethane | 50.0 | 46.6 | | ug/L | | 93 | 50 - 151 | 1 | 30 |
| Trichlorofluoromethane | 50.0 | 49.2 | | ug/L | | 98 | 58 - 145 | 19 | 30 |
| 1,1-Dichloroethene | 50.0 | 54.4 | | ug/L | | 109 | 74 - 125 | 1 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 53.0 | | ug/L | | 106 | 65 - 131 | 2 | 30 |
| Acetone | 250 | 278 | | ug/L | | 111 | 60 - 154 | 3 | 40 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-405615/5**
**Matrix: Water**
**Analysis Batch: 405615**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | | | 50.0 | 51.6 | | ug/L | | 103 | 73 - 127 | 6 | 20 |
| Methyl acetate | | | 250 | 285 | | ug/L | | 114 | 66 - 134 | 1 | 30 |
| Methylene Chloride | | | 50.0 | 53.0 | | ug/L | | 106 | 76 - 129 | 2 | 20 |
| trans-1,2-Dichloroethene | | | 50.0 | 50.6 | | ug/L | | 101 | 78 - 123 | 1 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 56.2 | | ug/L | | 112 | 74 - 135 | 1 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 51.5 | | ug/L | | 103 | 80 - 120 | 0 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 52.6 | | ug/L | | 105 | 80 - 122 | 1 | 20 |
| 2-Butanone | | | 250 | 271 | | ug/L | | 109 | 75 - 133 | 4 | 30 |
| Chloroform | | | 50.0 | 51.1 | | ug/L | | 102 | 79 - 122 | 1 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 55.2 | | ug/L | | 110 | 74 - 128 | 3 | 20 |
| Cyclohexane | | | 50.0 | 51.6 | | ug/L | | 103 | 69 - 130 | 1 | 30 |
| Carbon tetrachloride | | | 50.0 | 49.2 | | ug/L | | 98 | 75 - 130 | 5 | 20 |
| Benzene | | | 50.0 | 51.2 | | ug/L | | 102 | 73 - 131 | 1 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 51.4 | | ug/L | | 103 | 75 - 130 | 3 | 20 |
| Trichloroethene | | | 50.0 | 52.7 | | ug/L | | 105 | 80 - 123 | 2 | 20 |
| Methylcyclohexane | | | 50.0 | 53.2 | | ug/L | | 106 | 75 - 127 | 2 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 52.0 | | ug/L | | 104 | 80 - 123 | 2 | 20 |
| Bromodichloromethane | | | 50.0 | 53.9 | | ug/L | | 108 | 77 - 129 | 4 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 49.8 | | ug/L | | 100 | 80 - 133 | 3 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 270 | | ug/L | | 108 | 75 - 135 | 0 | 30 |
| Toluene | | | 50.0 | 51.3 | | ug/L | | 103 | 80 - 122 | 0 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 48.5 | | ug/L | | 97 | 74 - 140 | 3 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 52.9 | | ug/L | | 106 | 79 - 125 | 3 | 20 |
| Tetrachloroethene | | | 50.0 | 53.5 | | ug/L | | 107 | 77 - 123 | 2 | 20 |
| 2-Hexanone | | | 250 | 274 | | ug/L | | 110 | 70 - 141 | 0 | 40 |
| Dibromochloromethane | | | 50.0 | 49.8 | | ug/L | | 100 | 71 - 136 | 5 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 55.8 | | ug/L | | 112 | 77 - 131 | 1 | 30 |
| Chlorobenzene | | | 50.0 | 51.4 | | ug/L | | 103 | 80 - 120 | 1 | 20 |
| Ethylbenzene | | | 50.0 | 51.2 | | ug/L | | 102 | 80 - 120 | 1 | 20 |
| Xylenes, Total | | | 100 | 104 | | ug/L | | 104 | 80 - 120 | 1 | 20 |
| Styrene | | | 50.0 | 53.4 | | ug/L | | 107 | 80 - 122 | 1 | 20 |
| Bromoform | | | 50.0 | 38.9 | | ug/L | | 78 | 69 - 135 | 8 | 20 |
| Isopropylbenzene | | | 50.0 | 54.0 | | ug/L | | 108 | 80 - 120 | 2 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 51.1 | | ug/L | | 102 | 72 - 128 | 2 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 52.9 | | ug/L | | 106 | 80 - 120 | 1 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 50.9 | | ug/L | | 102 | 80 - 120 | 2 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 51.1 | | ug/L | | 102 | 80 - 120 | 1 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 46.0 | | ug/L | | 92 | 59 - 141 | 8 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 58.1 | | ug/L | | 116 | 77 - 131 | 4 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *104* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *107* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* |

## GC/MS VOA

### Analysis Batch: 404977

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-117408-9 | MW-23 | Total/NA | Water | 8260B | |
| 680-117408-11 | MW-25 | Total/NA | Water | 8260B | |
| 680-117408-13 | MW-27 | Total/NA | Water | 8260B | |
| 680-117408-17 | MW-31 | Total/NA | Water | 8260B | |
| 680-117408-26 | Trip Blank | Total/NA | Water | 8260B | |
| LCS 680-404977/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-404977/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-404977/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 405143

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-117408-7 | MW-18R | Total/NA | Water | 8260B | |
| 680-117408-8 | MW-19 | Total/NA | Water | 8260B | |
| 680-117408-20 | MW-34 | Total/NA | Water | 8260B | |
| 680-117408-21 | MW-35 | Total/NA | Water | 8260B | |
| LCS 680-405143/3 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-405143/4 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-405143/8 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 405239

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-117408-10 | MW-24R | Total/NA | Water | 8260B | |
| 680-117408-14 | MW-28 | Total/NA | Water | 8260B | |
| 680-117408-16 | MW-30 | Total/NA | Water | 8260B | |
| 680-117408-23 | MW-37 | Total/NA | Water | 8260B | |
| LCS 680-405239/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-405239/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-405239/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 405241

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-117408-4 | MW-14 | Total/NA | Water | 8260B | |
| 680-117408-5 | MW-16 | Total/NA | Water | 8260B | |
| 680-117408-6 | MW-17R | Total/NA | Water | 8260B | |
| 680-117408-22 | MW-36 | Total/NA | Water | 8260B | |
| 680-117408-25 | PAN-MW-10 | Total/NA | Water | 8260B | |
| LCS 680-405241/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-405241/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-405241/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 405400

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-117408-18 | MW-32 | Total/NA | Water | 8260B | |
| 680-117408-24 | PAN-MW-9 | Total/NA | Water | 8260B | |
| LCS 680-405400/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-405400/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-405400/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 405413

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-117408-3 | LAW-PZ-8R | Total/NA | Water | 8260B | |

## GC/MS VOA (Continued)

### Analysis Batch: 405413 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-117408-19 | MW-33 | Total/NA | Water | 8260B | |
| LCS 680-405413/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-405413/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-405413/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 405604

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-117408-2 | IW-18 | Total/NA | Water | 8260B | |
| 680-117408-12 | MW-26R | Total/NA | Water | 8260B | |
| LCS 680-405604/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-405604/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-405604/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 405615

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-117408-1 | IW-IR | Total/NA | Water | 8260B | |
| 680-117408-15 | MW-29 | Total/NA | Water | 8260B | |
| LCS 680-405615/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-405615/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-405615/9 | Method Blank | Total/NA | Water | 8260B | |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Client Sample ID: IW-IR
**Date Collected: 10/01/15 11:20**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-1
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 200 | 5 mL | 5 mL | 405615 | 10/14/15 14:41 | CEJ | TAL SAV |
| | Instrument ID: CMSAC | | | | | | | | | |

## Client Sample ID: IW-18
**Date Collected: 10/01/15 19:14**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-2
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 25 | 5 mL | 5 mL | 405604 | 10/14/15 12:06 | CEJ | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: LAW-PZ-8R
**Date Collected: 10/01/15 14:34**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-3
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1000 | 5 mL | 5 mL | 405413 | 10/13/15 15:09 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-14
**Date Collected: 09/30/15 17:38**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-4
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 405241 | 10/12/15 16:47 | CEJ | TAL SAV |
| | Instrument ID: CMSS | | | | | | | | | |

## Client Sample ID: MW-16
**Date Collected: 09/30/15 16:03**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-5
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 2 | 5 mL | 5 mL | 405241 | 10/12/15 16:02 | CEJ | TAL SAV |
| | Instrument ID: CMSS | | | | | | | | | |

## Client Sample ID: MW-17R
**Date Collected: 09/30/15 10:03**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-6
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 405241 | 10/12/15 14:09 | CEJ | TAL SAV |
| | Instrument ID: CMSS | | | | | | | | | |

## Client Sample ID: MW-18R
**Date Collected: 09/29/15 19:01**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-7**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 405143 | 10/10/15 13:42 | RWB | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: MW-19
**Date Collected: 09/28/15 16:33**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-8**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 405143 | 10/10/15 11:54 | RWB | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: MW-23
**Date Collected: 09/28/15 14:43**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-9**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 404977 | 10/09/15 16:06 | CEJ | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: MW-24R
**Date Collected: 10/01/15 16:08**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-10**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 5 | 5 mL | 5 mL | 405239 | 10/12/15 12:56 | CEJ | TAL SAV |
| | Instrument ID: CMSAC | | | | | | | | | |

## Client Sample ID: MW-25
**Date Collected: 09/28/15 18:04**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-11**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 404977 | 10/09/15 16:49 | CEJ | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: MW-26R
**Date Collected: 10/01/15 10:05**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-12**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 5 | 5 mL | 5 mL | 405604 | 10/14/15 14:15 | CEJ | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: MW-27
**Date Collected: 09/28/15 11:31**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-13**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 404977 | 10/09/15 17:10 | CEJ | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: MW-28
**Date Collected: 09/29/15 11:21**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-14**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 2 | 5 mL | 5 mL | 405239 | 10/12/15 14:06 | CEJ | TAL SAV |
| | Instrument ID: CMSAC | | | | | | | | | |

## Client Sample ID: MW-29
**Date Collected: 10/01/15 17:22**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-15**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 100 | 5 mL | 5 mL | 405615 | 10/14/15 14:18 | CEJ | TAL SAV |
| | Instrument ID: CMSAC | | | | | | | | | |

## Client Sample ID: MW-30
**Date Collected: 09/29/15 17:45**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-16**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 405239 | 10/12/15 14:29 | CEJ | TAL SAV |
| | Instrument ID: CMSAC | | | | | | | | | |

## Client Sample ID: MW-31
**Date Collected: 09/28/15 13:31**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-17**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 404977 | 10/09/15 17:32 | CEJ | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: MW-32
**Date Collected: 09/30/15 11:02**
**Date Received: 10/02/15 15:10**

**Lab Sample ID: 680-117408-18**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 405400 | 10/13/15 10:30 | CEJ | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Client Sample ID: MW-33
**Date Collected: 10/01/15 18:05**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-19
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 5 | 5 mL | 5 mL | 405413 | 10/13/15 15:51 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-34
**Date Collected: 09/29/15 12:00**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-20
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 405143 | 10/10/15 14:46 | RWB | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: MW-35
**Date Collected: 09/29/15 15:15**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-21
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 405143 | 10/10/15 15:08 | RWB | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

## Client Sample ID: MW-36
**Date Collected: 09/30/15 09:01**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-22
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 405241 | 10/12/15 14:54 | CEJ | TAL SAV |
| | Instrument ID: CMSS | | | | | | | | | |

## Client Sample ID: MW-37
**Date Collected: 09/28/15 10:17**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-23
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 5 | 5 mL | 5 mL | 405239 | 10/12/15 13:19 | CEJ | TAL SAV |
| | Instrument ID: CMSAC | | | | | | | | | |

## Client Sample ID: PAN-MW-9
**Date Collected: 09/30/15 18:29**
**Date Received: 10/02/15 15:10**

## Lab Sample ID: 680-117408-24
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 20 | 5 mL | 5 mL | 405400 | 10/13/15 10:52 | CEJ | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Client Sample ID: PAN-MW-10

**Lab Sample ID: 680-117408-25**

**Date Collected: 09/30/15 14:43**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 405241 | 10/12/15 15:17 | CEJ | TAL SAV |
| | Instrument ID: CMSS | | | | | | | | | |

## Client Sample ID: Trip Blank

**Lab Sample ID: 680-117408-26**

**Date Collected: 09/28/15 00:00**

**Matrix: Water**

**Date Received: 10/02/15 15:10**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 404977 | 10/09/15 14:40 | CEJ | TAL SAV |
| | Instrument ID: CMSP2 | | | | | | | | | |

**Laboratory References:**

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Serial Number 80588

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


**TestAmerica Savannah**
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165


Alternate Laboratory Name/Location

Phone:
Fax:

| PROJECT REFERENCE | PROJECT NO. | PROJECT LOCATION (STATE) |
|---|---|---|
| VOPAK Savannah Terminal | 390020 | GA |

| TAL (LAB) PROJECT MANAGER | PO NUMBER | CONTRACT NO. |
|---|---|---|
| Sheila Hoffman | | |

| CLIENT (SITE) PM | CLIENT PHONE | CLIENT FAX |
|---|---|---|
| Alan Sanders | 770-772-7100 | |

| CLIENT NAME | CLIENT E-MAIL |
|---|---|
| EIC | asanders@eicusa.com |

CLIENT ADDRESS: 161 Kimball Bridge Rd Alpharetta, GA 30009

COMPANY CONTRACTING THIS WORK (if applicable):

PAGE 1 OF 3

STANDARD REPORT DELIVERY (X)
DATE DUE 10/16/15

EXPEDITED REPORT DELIVERY (SURCHARGE) ( )
DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | COMPOSITE (C) OR GRAB (G) INDICATE | MATRIX TYPE: AQUEOUS (WATER) | MATRIX TYPE: SOLID OR SEMISOLID | MATRIX TYPE: AIR | MATRIX TYPE: NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | REQUIRED ANALYSIS: 8260B | REQUIRED ANALYSIS: 1421 | NUMBER OF CONTAINERS SUBMITTED | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/01/15 | 11:20 | IW-1R | G | ✓ | | | | | | 3 | |
| 10/01/15 | 19:14 | IW-18 | G | ✓ | | | | | | 3 | |
| 10/01/15 | 14:34 | LAW-PZ-8R | G | ✓ | | | | | | 3 | |
| 9/30/15 | 17:38 | MW-14 | G | ✓ | | | | | | 3 | |
| 9/30/15 | 16:03 | MW-16 | G | ✓ | | | | | | 3 | |
| 9/30/15 | 10:03 | MW-17R | G | ✓ | | | | | | 3 | |
| 9/29/15 | 19:01 | MW-18R | G | ✓ | | | | | | 3 | |
| 9/28/15 | 16:33 | MW-19 | G | ✓ | | | | | | 3 | |
| 9/28/15 | 14:43 | MW-23 | G | ✓ | | | | | | 3 | |
| 10/01/15 | 16:08 | MW-24R | G | ✓ | | | | | | 3 | |
| 9/28/15 | 18:05 | MW-25 | G | ✓ | | | | | | 3 | |
| 10/01/15 | 10:05 | MW-26R | G | ✓ | | | | | | 3 | |

68D-117408 Chain of Custody

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| Amelia | 10/2/15 | 1510 | | | | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| | | | | | | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| Lyn Kuhn | 10/2/15 | 1510 | YES ( ) NO ( ) | | | 48152 |

TAL8240-680 (1008)

Serial Number 97969

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


**TestAmerica Savannah**
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location
Phone:
Fax.


| | | | |
|---|---|---|---|
| PROJECT REFERENCE: VOPAK Savannah Terminal | PROJECT NO: 390020 | PROJECT LOCATION (STATE): GA | |
| TAL (LAB) PROJECT MANAGER: Sheila Hoffman | P.O. NUMBER: | CONTRACT NO.: | |
| CLIENT (SITE) PM: Alan Sanders | CLIENT PHONE: 770-772-7100 | CLIENT FAX: | |
| CLIENT NAME: EIC | CLIENT E-MAIL: asanders@eicusa.com | | |
| CLIENT ADDRESS: 161 Kimball Bridge Rd alpharetta GA, 30009 | | | |
| COMPANY CONTRACTING THIS WORK (if applicable) | | | |

PAGE 2 OF 3

STANDARD REPORT DELIVERY (●) DATE DUE 10/16/15

EXPEDITED REPORT DELIVERY (SURCHARGE) (○) DATE DUE 1

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | COMPOSITE (C) OR GRAB (G) INDICATE | AQUEOUS (WATER) | SOLID OR SEMISOLID | AIR | NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | #21 82608 | PRESERVATIVE | NUMBER OF CONTAINERS SUBMITTED | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/28/15 | 11:31 | MW-27 | G | ✓ | | | | 3 | | | |
| 9/29/15 | 11:21 | MW-28 | G | ✓ | | | | 3 | | | |
| 10/01/15 | 17:22 | MW-29 | G | ✓ | | | | 3 | | | |
| 9/29/15 | 17:45 | MW-30 | G | ✓ | | | | 3 | | | |
| 9/28/15 | 13:31 | MW-31 | G | ✓ | | | | 3 | | | |
| 9/30/15 | 11:02 | MW-32 | G | ✓ | | | | 3 | | | |
| 10/01/15 | 18:05 | MW-33 | G | ✓ | | | | 3 | | | |
| 9/29/15 | 12:00 | MW-34 | G | ✓ | | | | 3 | | | |
| 9/29/15 | 15:15 | MW-35 | G | ✓ | | | | 3 | | | |
| 9/30/15 | 9:01 | MW-36 | G | ✓ | | | | 3 | | | |
| 9/28/15 | 10:17 | MW-37 | G | ✓ | | | | 3 | | | |
| 9/30/15 | 18:29 | PAN-MW-9 | G | ✓ | | | | 3 | | | |

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| Amelia | 10/2/15 | 1510 | | | | | | |
| **RECEIVED BY: (SIGNATURE)** | **DATE** | **TIME** | **RECEIVED BY: (SIGNATURE)** | **DATE** | **TIME** | **RECEIVED BY: (SIGNATURE)** | **DATE** | **TIME** |
| | | | | | | | | |

**LABORATORY USE ONLY**

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| Kyra Kuhn | 10/2/15 | 1510 | YES (○) NO (○) | | 680-117408 | 4.8/5.2 |

TAL8240-680 (1008)

Page 83 of 86

10/15/2015

Serial Number 97970

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


**TestAmerica Savannah**
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165


Alternate Laboratory Name/Location

Phone:
Fax:

| PROJECT REFERENCE | PROJECT NO. | PROJECT LOCATION (STATE) |
|---|---|---|
| WOPAK Savannah Terminal | 390020 | GA |

| TAL (LAB) PROJECT MANAGER | P.O. NUMBER | CONTRACT NO. |
|---|---|---|
| Sheila Hoffman | | |

| CLIENT (SITE) PM | CLIENT PHONE | CLIENT FAX |
|---|---|---|
| Alan Sanders | 770-772-7100 | |

| CLIENT NAME | CLIENT E-MAIL |
|---|---|
| EIC | asanders@eicusa.com |

CLIENT ADDRESS: 161 Kimball Bridge Rd, Alpharetta GA 30009

COMPANY CONTRACTING THIS WORK (if applicable)

PAGE 3 OF 3

STANDARD REPORT DELIVERY (●)
DATE DUE 10/16/15

EXPEDITED REPORT DELIVERY (SURCHARGE) ( )
DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE | MATRIX: AQUEOUS (WATER) | MATRIX: SOLID OR SEMISOLID | MATRIX: AIR | MATRIX: NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | REQUIRED ANALYSIS: #21 8260B | REQUIRED ANALYSIS: PRESERVATIVE | NUMBER OF CONTAINERS SUBMITTED | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/30/15 | 14:43 | PAN-MW-10 | G | ✓ | | | | 3 | | 3 | |
| — | ← | Trip Blank | G | ✓ | | | | 2 | | 2 | |

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| Amelia | 10/2/15 | 1510 | | | | | | |
| **RECEIVED BY: (SIGNATURE)** | **DATE** | **TIME** | **RECEIVED BY (SIGNATURE)** | **DATE** | **TIME** | **RECEIVED BY: (SIGNATURE)** | **DATE** | **TIME** |
| | | | | | | | | |

**LABORATORY USE ONLY**

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| Kyra Kinkead | 10/2/15 | 1510 | YES ( ) NO ( ) | | | 4.8/5.2 1680-117408 |

TAL8240-680 (1008)

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10/15/2015

# Login Sample Receipt Checklist

Client: Environmental International Corporation

Job Number: 680-117408-1

**Login Number: 117408**
**List Number: 1**
**Creator: White, Menica R**

**List Source: TestAmerica Savannah**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | N/A | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

# Certification Summary

Client: Environmental International Corporation
Project/Site: VOPAK Savannah Terminal/390020

TestAmerica Job ID: 680-117408-1

## Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| Georgia | State Program | 4 | 803 | 06-30-16 |

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# NINTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT D

## GAUGING DATA FROM USGS GAUGING STATION 021989773

# Attachment D

| Date & Time | Gauge Height (Feet, NAVD88) | Stream Velocity (feet per Second) |
|---|---|---|
| 1/8/2008 13:45 | -4.38 | 1.46 |
| 2/3/2008 23:45 | -4.38 | 0.97 |
| 3/4/2008 12:15 | -4.38 | 0.68 |
| 3/5/2008 12:00 | -4.38 | 1.64 |
| 3/7/2008 15:45 | -4.38 | 0.09 |
| 3/15/2008 22:00 | -4.38 | 0.6 |
| 3/15/2008 22:45 | -4.38 | 0.47 |
| 5/2/2008 12:15 | -4.38 | 0.44 |
| 5/10/2008 7:00 | -4.38 | 1.78 |
| 5/20/2008 4:00 | -4.38 | 0.03 |
| 6/8/2008 19:15 | -4.38 | 1.15 |
| 6/28/2008 9:15 | -4.38 | 1.4 |
| 7/5/2008 16:15 | -4.38 | 1.41 |
| 8/2/2008 3:15 | -4.38 | 1.77 |
| 8/5/2008 18:30 | -4.38 | 1.58 |
| 10/14/2008 15:30 | -4.38 | 1.43 |
| 10/29/2008 2:45 | -4.38 | 1.64 |
| 11/18/2008 6:15 | -4.38 | 1.02 |
| 11/27/2008 2:00 | -4.38 | 0.52 |
| 11/28/2008 1:45 | -4.38 | 1.09 |
| 12/1/2008 18:15 | -4.38 | 1.04 |
| 12/14/2008 2:15 | -4.38 | 1.77 |
| 1/2/2009 5:45 | -4.38 | 0.83 |
| 1/28/2009 4:00 | -4.38 | 0.46 |
| 1/30/2009 5:15 | -4.38 | 0.61 |
| 3/16/2009 6:45 | -4.38 | 2.16 |
| 3/31/2009 18:15 | -4.38 | 1.92 |
| 5/1/2009 9:15 | -4.38 | 0.32 |
| 5/2/2009 21:30 | -4.38 | 1.69 |
| 5/3/2009 22:30 | -4.38 | 1.7 |
| 6/6/2009 3:15 | -4.38 | 0.32 |
| 7/16/2009 9:45 | -4.38 | 0.02 |
| 7/29/2009 22:15 | -4.38 | 0.3 |
| 8/6/2009 16:15 | -4.38 | 0.37 |
| 8/7/2009 3:15 | -4.38 | 1.11 |
| 8/18/2009 12:45 | -4.38 | 1.19 |
| 12/16/2009 2:15 | -4.38 | 1.1 |
| 1/3/2010 16:15 | -4.38 | 1.98 |
| 1/8/2010 22:45 | -4.38 | 0.06 |
| 5/22/2010 22:45 | -4.38 | 1.23 |
| 6/12/2010 2:45 | -4.38 | 1.36 |
| 6/18/2010 20:45 | -4.38 | 1.33 |
| 6/18/2010 21:00 | -4.38 | 1.33 |
| 6/28/2010 17:15 | -4.38 | 0.87 |
| 7/19/2010 8:30 | -4.38 | 1.89 |
| 7/19/2010 8:45 | -4.38 | 1.89 |

# Attachment D

| Date & Time | Gauge Height (Feet, NAVD88) | Stream Velocity (feet per Second) |
|---|---|---|
| 7/19/2010 22:00 | -4.38 | 1.25 |
| 8/24/2010 3:00 | -4.38 | 1.06 |
| 10/9/2010 4:30 | -4.38 | 1.3 |
| 10/22/2010 2:15 | -4.38 | 1.15 |
| 11/9/2010 3:30 | -4.38 | 1.58 |
| 11/19/2010 0:30 | -4.38 | 1 |
| 12/24/2010 18:00 | -4.38 | 0.49 |
| 1/25/2011 19:45 | -4.38 | 0.37 |
| 2/2/2011 1:30 | -4.38 | 0.9 |
| 2/9/2011 18:30 | -4.38 | 1.39 |
| 2/15/2011 11:30 | -4.38 | 1.29 |
| 4/6/2011 6:00 | -4.38 | 0.36 |
| 4/8/2011 6:00 | -4.38 | 1.29 |
| 4/8/2011 6:15 | -4.38 | 1.15 |
| 4/14/2011 12:45 | -4.38 | 0.21 |
| 4/25/2011 9:45 | -4.38 | 0.71 |
| 5/3/2011 3:15 | -4.38 | 1.17 |
| 5/4/2011 4:00 | -4.38 | 1.06 |
| 5/5/2011 4:15 | -4.38 | 1.25 |
| 5/20/2011 6:45 | -4.38 | 0.28 |
| 5/29/2011 12:30 | -4.38 | 1.52 |
| 6/14/2011 3:15 | -4.38 | 0.17 |
| 6/17/2011 5:00 | -4.38 | 0.94 |
| 6/17/2011 16:00 | -4.38 | 1.34 |
| 7/1/2011 15:00 | -4.38 | 1.04 |
| 7/1/2011 15:15 | -4.38 | 1.04 |
| 7/9/2011 8:30 | -4.38 | 1.66 |
| 7/29/2011 13:15 | -4.38 | 1.53 |
| 7/30/2011 2:15 | -4.38 | 1.52 |
| 8/7/2011 9:15 | -4.38 | 1.5 |
| 8/9/2011 0:00 | -4.38 | 0.85 |
| 9/10/2011 2:00 | -4.38 | 1.33 |
| 11/21/2011 10:15 | -4.38 | 1.73 |
| 11/22/2011 13:00 | -4.38 | 0.1 |
| 11/23/2011 14:30 | -4.38 | 0.02 |
| 12/9/2011 1:00 | -4.38 | 1.39 |
| 12/15/2011 17:30 | -4.38 | 1.88 |
| 12/18/2011 20:45 | -4.38 | 0.81 |
| 1/5/2012 0:00 | -4.38 | 0.86 |
| 1/11/2012 17:15 | -4.38 | 0.82 |
| 1/27/2012 5:00 | -4.38 | 0.97 |
| 1/28/2012 5:15 | -4.38 | 1.96 |
| 2/2/2012 22:00 | -4.38 | 0.75 |
| 2/8/2012 16:00 | -4.38 | 0.82 |
| 2/26/2012 5:30 | -4.38 | 0.33 |
| 2/26/2012 5:45 | -4.38 | 0.33 |

# Attachment D

| Date & Time | Gauge Height (Feet, NAVD88) | Stream Velocity (feet per Second) |
|---|---|---|
| 3/16/2012 23:15 | -4.38 | 0.24 |
| 3/21/2012 2:00 | -4.38 | 1.75 |
| 4/6/2012 4:00 | -4.38 | 0.47 |
| 4/10/2012 17:45 | -4.38 | 2.06 |
| 4/10/2012 18:00 | -4.38 | 2.06 |
| 4/15/2012 23:15 | -4.38 | 1.32 |
| 5/1/2012 11:15 | -4.38 | 0.48 |
| 5/4/2012 0:45 | -4.38 | 2.34 |
| 5/7/2012 17:00 | -4.38 | 1.46 |
| 5/31/2012 10:45 | -4.38 | 2.49 |
| 5/31/2012 11:00 | -4.38 | 1.68 |
| 7/7/2012 19:00 | -4.38 | 0.82 |
| 7/22/2012 4:30 | -4.38 | 1.6 |
| 8/7/2012 7:30 | -4.38 | 0.61 |
| 8/21/2012 5:15 | -4.38 | 2.04 |
| 8/21/2012 5:30 | -4.38 | 2.04 |
| 8/29/2012 2:15 | -4.38 | 1.47 |
| 9/3/2012 17:15 | -4.38 | 2.04 |
| 9/3/2012 17:30 | -4.38 | 2.04 |
| 9/27/2012 2:00 | -4.38 | 0.84 |
| 9/27/2012 13:00 | -4.38 | 1.33 |
| 12/13/2012 3:15 | -4.38 | 0.63 |
| 12/15/2012 3:30 | -4.38 | 1.66 |
| 12/22/2012 22:15 | -4.38 | 0.64 |
| 12/28/2012 1:00 | -4.38 | 1.94 |
| 1/6/2013 10:00 | -4.38 | 0.23 |
| 2/1/2013 16:45 | -4.38 | 2.42 |
| 2/1/2013 17:00 | -4.38 | 2.42 |
| 2/15/2013 17:30 | -4.38 | 2.38 |
| 2/23/2013 0:45 | -4.38 | 1.42 |
| 2/28/2013 17:45 | -4.38 | 0.05 |
| 3/4/2013 7:00 | -4.38 | 2.1 |
| 3/4/2013 19:30 | -4.38 | 1.04 |
| 3/6/2013 23:15 | -4.38 | 0.13 |
| 3/28/2013 15:15 | -4.38 | 2.03 |
| 4/1/2013 6:15 | -4.38 | 1.44 |
| 4/5/2013 11:00 | -4.38 | 1.92 |
| 4/13/2013 17:00 | -4.38 | 2.14 |
| 4/13/2013 17:45 | -4.38 | 0.49 |
| 5/7/2013 2:00 | -4.38 | 0.76 |
| 5/30/2013 7:45 | -4.38 | 1.21 |
| 6/18/2013 23:15 | -4.38 | 2.13 |
| 7/9/2013 3:30 | -4.38 | 1.55 |
| 7/29/2013 8:15 | -4.38 | 0.35 |
| 8/10/2013 5:15 | -4.38 | 1.25 |
| 9/4/2013 2:45 | -4.38 | 0.83 |

# Attachment D

| Date & Time | Gauge Height (Feet, NAVD88) | Stream Velocity (feet per Second) |
|---|---|---|
| 9/4/2013 14:00 | -4.38 | 2.16 |
| 9/6/2013 16:00 | -4.38 | 1.05 |
| 9/16/2013 0:45 | -4.38 | 1.83 |
| 10/6/2013 4:30 | -4.38 | 1.22 |
| 12/16/2013 14:45 | -4.38 | 0.92 |
| 12/17/2013 14:15 | -4.38 | 1.6 |
| 12/17/2013 14:30 | -4.38 | 1.6 |
| 1/5/2014 17:45 | -4.38 | 2.02 |
| 1/5/2014 18:00 | -4.38 | 2.02 |
| 1/21/2014 17:15 | -4.38 | 3 |
| 2/3/2014 16:30 | -4.38 | 1.89 |
| 2/3/2014 16:45 | -4.38 | 1.89 |
| 2/13/2014 14:00 | -4.38 | 1.82 |
| 2/15/2014 3:15 | -4.38 | 0.58 |
| 2/15/2014 3:30 | -4.38 | 0.58 |
| 2/25/2014 11:15 | -4.38 | 1.46 |
| 3/21/2014 6:30 | -4.38 | 0.91 |
| 3/22/2014 19:30 | -4.38 | 1.57 |
| 3/25/2014 22:00 | -4.38 | 2.24 |
| 4/1/2014 5:45 | -4.38 | 0.06 |
| 4/3/2014 5:15 | -4.38 | 1.66 |
| 4/27/2014 1:45 | -4.38 | 1.69 |
| 5/21/2014 20:45 | -4.38 | 1.57 |
| 6/16/2014 7:00 | -4.38 | 1.17 |
| 6/16/2014 18:00 | -4.38 | 1.85 |
| 7/9/2014 11:30 | -4.38 | 2.17 |
| 8/10/2014 14:30 | -4.38 | 1.84 |
| 8/15/2014 7:30 | -4.38 | 1.27 |
| 9/7/2014 13:30 | -4.38 | 1.63 |
| 9/8/2014 2:15 | -4.38 | 1.7 |
| 9/9/2014 3:00 | -4.38 | 1.94 |
| 9/11/2014 17:45 | -4.38 | 1.69 |
| 10/7/2014 15:30 | -4.38 | 0.94 |
| 10/9/2014 3:00 | -4.38 | 2.13 |
| 1/4/2015 1:00 | -4.38 | 2.24 |
| 1/22/2015 15:45 | -4.38 | 1.9 |
| 3/8/2015 16:45 | -4.38 | 1.98 |
| 3/8/2015 17:45 | -4.38 | 0.86 |
| 4/16/2015 14:15 | -4.38 | 1.18 |
| 5/4/2015 16:00 | -4.38 | 1.14 |
| 6/16/2015 14:15 | -4.38 | 1.66 |
| 6/19/2015 18:15 | -4.38 | 0.16 |
| 6/19/2015 18:30 | -4.38 | 0.16 |
| 6/27/2015 11:30 | -4.38 | 0.21 |
| 6/29/2015 0:30 | -4.38 | 1.38 |
| 6/30/2015 14:45 | -4.38 | 0.41 |

# Attachment D

| Date & Time | Gauge Height (Feet, NAVD88) | Stream Velocity (feet per Second) |
|---|---|---|
| 6/30/2015 15:00 | -4.38 | 0.41 |
| 8/29/2015 3:15 | -4.38 | 1.98 |
| 9/3/2015 19:45 | -4.38 | 2.02 |
| 9/4/2015 7:30 | -4.38 | 2.53 |
| 9/13/2015 15:30 | -4.38 | 0.86 |
| 10/24/2015 1:00 | -4.38 | 0.75 |
| 10/29/2015 6:00 | -4.38 | 0.24 |
| 11/23/2015 0:00 | -4.38 | 1.54 |
| 11/28/2015 5:00 | -4.38 | 0.16 |
| 12/24/2015 0:30 | -4.38 | 1.34 |
| 12/29/2015 17:45 | -4.38 | 1.44 |
| **Average River Velocity (feet per second) -->** | | **1.24** |

**Notes:**

Selected stream velocities were obtained by Environmental International Corporation (EIC) from USGS Waterdata database from Gauging Station 021989773. The dates of the data EIC obtained ranged from 2008 to 2015, which included all years with complete gauge and stream velocity data from this gauging station.

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# NINTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT E

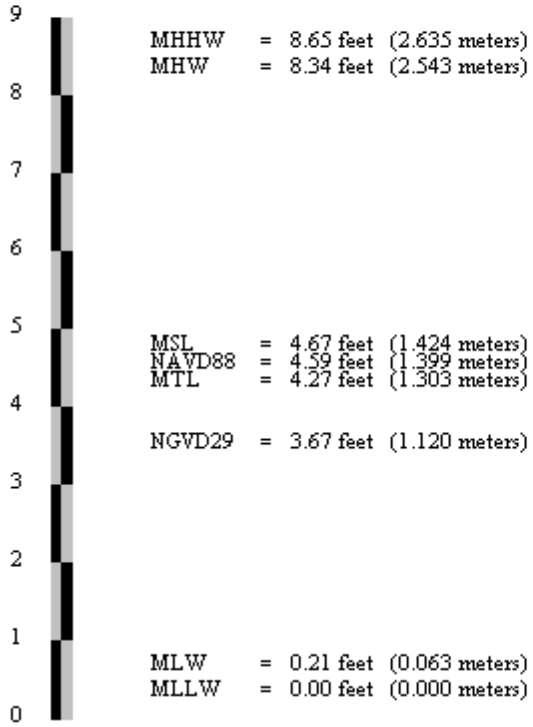
## ELEVATION INFORMATION, NATIONAL GEODETIC SURVEY – TIDAL EVALUATION

# National Geodetic Survey - Tidal Elevation

ngs.noaa.gov/Tidal_Elevation/diagram.jsp

ELEVATION INFORMATION

PID: CK0429
VM: 16682
STATION ID: 8670424
EPOCH: 1983-2001
DATE: Tuesday, July 28, 2015 3:04:50 PM EST




The NAVD 88 and the NGVD 29 elevations related to MLLW were computed from Bench Mark, A 3, at the station.

Displayed tidal datums are Mean Higher High Water(MHHW), Mean High Water (MHW), Mean Tide Level(MTL), Mean Sea Level (MSL), Mean Low Water(MLW), and Mean Lower Low Water(MLLW) referenced on 1960-1978 Epoch.

Go Back to Main Page

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# NINTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT F

## U.S. ARMY CORPS OF ENGINEERS – SAVANNAH HARBOR EXPANSION PROJECT – CHANNEL DESIGN DRAWINGS, PLAT REFERENCE NO. 3

1 2 3 4 5

D C B A

DISPOSAL AREA 2-A

PANOCEAN SOUTHLAND INC.

BERTH 2 EXTENSION

BERTH 30

G.A.F. CORPORATION

Vopak Terminal Savannah

RUBEROID COMPANY

NATIONAL GYPSUM COMPANY (GOLD BOND)

NEW GYPSUM

HUTCHINSON ISLAND

BACK RIVER

RANGE

OUTFALL PIPE

STA 91+ 975

MARSH ISLAND TURNING BASIN
900'X1000'X34' DEEP

SAVANNAH ELECTRIC AND POWER COMPANY TRANSMISSION LINE

UNION CAMP AERATION LAGOON

SOUTHERN BULK INDUSTRIES

CITGO ASPHALT REFINING CO.

UNION CAMP CORP.

STA 89+250 IP EFFLUENT LINE

STA 88+600 ELECTRIC CABLE

CHANNEL LEGEND

SINGLE SOLID LINE REPRESENTS COINCIDENT EXISTING & FINAL DESIGN CHANNEL TOE

DUAL LINES REPRESENT EXISTING CHANNEL TOE & FINAL DESIGN CHANNEL TOE

NOTES:

1. SOUNDINGS SHOWN INDICATE ALL CHANGES OR CRITICAL POINTS IN THE RIVERBED.
2. STATIONS ARE AT 1000' INTERVALS.
3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
4. DATUMS: HORIZONTAL = GA EAST. NAD 83
   VERTICAL = M.L.W. (M.L.W. - 0.22' = M.L.L.W.)
5. AERIALS ©2008 DIGITALGLOBE

SCALE: 1"=200'

200 0 200 400 600

US ARMY CORPS OF ENGINEERS SAVANNAH

| BY: | DATE | SYMBOL | DESCRIPTION |
|---|---|---|---|
| | | | |

PREPARED BY: SAVANNAH DISTRICT
APPROVED BY: CHIEF, ENGINEERING BRANCH

REVIEWED BY: CHIEF, DESIGN SECTION
SOLICITATION NO.: CONTRACT NO.: CATEGORY CODE:

DESIGNED BY: CHK BY: DATE: FILE NAME: SIZE: D 22"X34" PLOT SCALE:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
SAVANNAH DISTRICT

SAVANNAH HARBOR EXPANSION
SAVANNAH HARBOR, GEORGIA

# MARSH ISLAND

PLATE REFERENCE NUMBER 03

SHEET

$$$$DSPCS$$
$$$$TMPLATE$$
$$$$FRAME$$

VOPAK TERMINAL SAVANNAH, SAVANNAH, GEORGIA

# NINTH SEMI-ANNUAL PROGRESS REPORT

# ATTACHMENT G

## MONTHLY SUMMARY OF HOURS INVOICED (SEPT. 2015 – FEB. 2016)

## Environmental International Corporation

# Time by Job Summary

### August 23, 2015 through February 2016

| TASKS | Aug 23 - 31, 15 | Sep 15 | Oct 15 | Nov 15 | Dec 15 | Jan 16 | Feb 16 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| VTSI Quarterly MNA GW Sampling | 0 | 96 | 64 | 15 | 15 | 0 | 1 | 190 |
| Semi-annual report for VTSI | 18 | 2 | 0 | 0 | 7 | 86 | 67 | 180 |
| Site Conceptual Model | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 32 |
| **TOTAL** | **50** | | **64** | **15** | **22** | **86** | **67** | **304** |

HSI SITE NO. 10464, PCE REMEDIATION, VOPAK TERMINAL SAVANNAH

# COMPLIANCE STATUS REPORT

## Exhibit G:
## April 2016 Groundwater Monitoring Report

PCE REMEDIATION, HSI SITE 10464, VOPAK TERMINAL SAVANNAH
SAVANNAH, GEORGIA

# APRIL 2016 GROUNDWATER MONITORING REPORT

---

Thursday, July 28, 2016

Submitted to:
**GEORGIA ENVIRONMENTAL PROTECTION DIVISION**
Georgia Department of Natural Resources
Environmental Protection Division
Response and Remediation Program
Suite 1054 East Tower
2 Martin Luther King Jr. Drive, S.E.
Atlanta, Georgia 30334

Prepared for:
**VOPAK TERMINAL SAVANNAH**
P.O. Box 7390
Savannah, Georgia 31418-7390

Prepared by:
**ENVIRONMENTAL INTERNATIONAL CORPORATION**
161 Kimball Bridge Road, Suite 100, Alpharetta, GA 30009, USA
Phone 770.772.7100 • Fax 770.772.0555
http://www.eicusa.com

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Table 3-3: Groundwater Natural Attenuation Parameters, VOPAK Terminal Savannah, Savannah, Georgia

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Figure 3-2: Groundwater Analytical Results,

Figure 3-3: PCE Isoconcentration Map,

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Figure 3-5: cis- 1, 2 DCE Isoconcentration Map,

Figure 3-6: Vinyl Chloride Isoconcentration Map,

Figure 3-7: Benzene Isoconcentration Map,

Figure 3-8: Toluene Isoconcentration Map,

Figure 3-9: Ethylbenzene Isoconcentration Map,

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# LIST OF ATTACHMENTS

A. April 2016 Survey Report

B. April 2016 EIC Well Purging and Sampling Data Field Logs

C. Laboratory Analytical Results for Groundwater Samples, April 2016

SECTION

1

# 1.0 INTRODUCTION

On behalf of VOPAK Terminal Savannah, Inc. (VTSI), Environmental International Corporation (EIC) is pleased to submit the April 2016 Groundwater Monitoring Report for review by the Georgia Environmental Protection Division Response and Remediation Program (EPD). This report was prepared to describe the semi-annual sampling specified in the April 2, 2011 "Revised Voluntary Investigation and Remediation Plan (VIRP) and Application" that was approved by the EPD on August 31, 2011 under the Voluntary Remediation Program (VRP) (EIC, 2011a).

## 1.1 Primary Objectives

The primary objective of this report is to present the semi-annual groundwater monitoring event conducted in April 2016. This report documents the following subjects:

- Well Survey
- April 2016 Semi-annual Groundwater Monitoring Event

The following sections describe each task related to these subjects.

A site layout map is included as Figure 1-1.

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# 2.0 WELL SURVEY

In April 2016, EIC retained a professional land surveyor licensed in the State of Georgia to survey various features at VTSI. For the VIRP, the primary objective achieved was the measurement of the horizontal and vertical coordinates of the top of casing (TOC) of wells IW-1R and MW-28. The surveyor also measured the vertical coordinates of the ground surface adjacent to the two aforementioned wells. This data allowed for the accurate placement of wells IW-1R and MW-28 on site maps and enabled calculation of the groundwater potentiometric surface elevation at each of these wells for all events in which the wells were gauged. The survey report is included as Attachment A.

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# 3.0 GROUNDWATER MONITORING

The semi-annual groundwater monitoring (sampling) event documented in this section was conducted from April 4 to 7, 2016. This was the first semi-annual sampling event of 2016 under the VIRP program. The sampling event entailed the collection of groundwater samples, for laboratory analysis of dissolved constituents (or contaminants) of concern (COCs), from wells within the previously established area of concern. COCs that EIC monitored included dissolved chlorinated volatile organic compounds (CVOCs) and volatile organic compounds (VOCs).

During this event, all available monitoring wells and two selected former injection wells within and adjacent to the CVOC/VOC contaminant plumes were utilized for groundwater sampling. Accordingly, EIC collected groundwater samples for CVOC/VOC analysis from a total of 25 wells.

The analytical data from the April 2016 sampling event was compared to the first quarterly sampling event (EIC, 2011b) and all other subsequent sampling events (EIC, 2012a, 2012b, 2012c, 2012d, 2013a, 2013b, 2013c, 2014a, 2014b, 2015a, 2015b, and 2016) to track prevailing contaminant concentration trends.

## 3.1 Groundwater Monitoring Objective

The primary goal of the April 2016 groundwater monitoring event was to meet the groundwater monitoring objectives set forth in the VIRP. The following subsections document the sampling process and an evaluation of the analytical results from the samples collected at the site.

## 3.2 Groundwater Monitoring Field Program

During the April 2016 groundwater monitoring event, EIC conducted groundwater monitoring utilizing 22 shallow monitoring wells, two shallow injection wells, and one deep monitoring well. The site layout is illustrated in Figure 1-1 with the locations of each well. The following sub-sections describe EIC's technical approach regarding this event.

### 3.2.1 Sampling Protocol

The groundwater sampling program was conducted in accordance with the current U.S. Region 4 EPA groundwater sampling procedure "Field Branches Quality System and Technical Procedures" (FBQSTP) per EPD regulations. Each monitoring well was gauged, purged, and sampled following the "low-flow" purge technique established in the standard operating procedure (SOP) SESDPROC-301-R3 under the FBQSTP (EPA, 2013).

### 3.2.2 Site Access

Prior to EIC's site visit, EIC coordinated the sampling activities with the Georgia Ports Authority (GPA) and GAF Materials Corp. (GAF) for gaining access to collect groundwater samples from a total of seven off-site monitoring wells consisting of MW-17R, MW-28, MW-32, MW-34, MW-35, MW-36, and MW-37. Monitoring wells MW-28 and MW-37 are located on GAF property and wells MW-17R, MW-32, MW-34, MW-35, and MW-36 are located on GPA property.

### 3.2.3 Groundwater Gauging

During the sampling event, EIC first gauged each well with a Solinst Model 122 interface meter ("oil/water interface probe") to determine the static depth to groundwater below the top-of-casing (TOC) of each well. The gauging data is tabulated in Table 3-1. In preparing this table, EIC utilized surveyed TOC elevations to determine the groundwater elevation at each well during this event.

### 3.2.4 Groundwater Sampling Field Procedures

To containerize investigative-derived waste (IDW) purged groundwater , EIC utilized a structurally competent 55-gallon drum supplied by VTSI. During the April 2016 event, the 55-gallon drum was placed on the west shoulder of Hart Street, which lies between Tank Farm #2 and Tank Farm #3, near well MW-27. EIC placed a non-hazardous waste label on the drum and marked the contents on it as "IDW well purge water" and the accumulation date with a black permanent marker. The drum was later properly disposed of by VTSI.

EIC followed the "low-flow" purge technique, noted in Section 3.2.1, to conduct all groundwater sampling. EIC used a peristaltic pump with disposable 1/4-inch internal diameter (ID) Teflon®-lined tubing and a 6-inch segment of 3/16-inch ID silicon tubing at the pump head to purge each well until groundwater quality parameters reached stabilization prior to sampling. The length of Teflon® tubing necessary to place the intake at the center of the wetted screened interval was determined from measuring water levels and utilizing available well construction data noted in EIC well purging and sampling data field logs (Attachment B). Purging data is summarized in Table 3-2.

Groundwater stabilization parameters were monitored during direct transfer of the pumped groundwater through a multi-parameter field water quality meter equipped with a flow-through cell. These parameters were recorded at approximately five-minute intervals on EIC's field logs

(Attachment B). Additionally, purge volumes and depth-to-water (DTW) measurements were recorded at the same five-minute intervals when possible. At each well, the pumping rate and tubing depth were adjusted accordingly if excessive drawdown was observed. In 1-inch and ¾-inch ID cased wells, where the installed tubing restricted the access of the interface probe, the depth to water could not be gauged during purging. In these wells, gauging was performed only just prior to inserting the tubing and immediately after the tubing was removed.

EIC considered that stabilization was reached when 3 consecutive stabilization parameter readings were within ± 0.1 for pH and ± 5% for specific conductivity. Reasonable attempts were made at each well to reach 0.2 mg/L dissolved oxygen (DO) and a turbidity reading below 10 Nephelometric Turbidity Units (NTUs) prior to sampling. Groundwater quality field parameters (Temperature, pH, oxygen reduction potential (ORP), conductivity, turbidity, and DO) after stabilization and prior to sample collection are summarized in Table 3-3. Note, however, that during the April 2016 sampling event, the turbidity levels at 12 wells could not be lowered below 10 NTUs and the DO levels could not be lowered below 0.2 mg/L at any of the wells sampled. All samples were collected using the "soda straw method" specified in SOP SESDPROC-301-R3.

### 3.2.5 Sample Custody and Laboratory Analysis

Immediately after each sample set was collected, the sample bottles were sealed and labeled in the field. Each sample set was then placed in padded sealable plastic bags to prevent breakage and stored with ice in insulated cooler containers provided by the laboratory. Complete and signed chain-of-custody forms accompanied all samples. EIC delivered and relinquished the samples to Test America Laboratories, a Georgia-certified laboratory located in Savannah, Georgia, prior to returning to EIC headquarters.

The laboratory conducted analysis of volatile organic compounds via EPA method 8260B. The laboratory report for the April 2016 event is included as Attachment C. The results of COC analysis of samples collected during this event, along with historical COC analytical data, are summarized in Table 3-4.

## 3.3 Quality Assurance and Quality Control

For quality assurance and quality control purposes during the groundwater sampling process, EIC submitted one trip blank set, provided by the laboratory, with each sample container for analysis via EPA Method 8260B. The trip blanks were kept in the same thermal cooler as the collected CVOC/VOC samples until they were relinquished to the laboratory.

To prevent cross-contamination, new disposable 1/4-inch inner diameter and 3/8-inch outer diameter Teflon®-lined tubing was used to collect samples at each well, which were later properly disposed of. EIC's oil/water interface meter, 2,000 mL graduated cylinder, and Teflon® tubing cutter were field decontaminated prior to use and between sampling locations by washing with a phosphate-free detergent solution and rinsing with pressurized de-ionized (DI) water. After each

sample was collected, the water quality parameters instrument was also decontaminated with DI water.

### 3.4 Data Evaluation

EIC conducted an evaluation of the data compiled from field and laboratory analyses of groundwater samples collected during this event to determine the groundwater potentiometric surface and to determine the horizontal and the vertical extent of the prevailing COC plumes. Data from the current sampling event was compared with the data from the baseline sampling event and from each of the subsequent sampling events.

#### 3.4.1 Groundwater Potentiometric Map

Table 3-5 tabulates the historical groundwater elevations for all gauging events at the site since groundwater monitoring was initiated under the VIRP in October 2011. From this table, it is apparent that during the April 2016 gauging event, the overall potentiometric surface was similar in elevation to the previous gauging event in September/October 2015. In general, the potentiometric surface elevation at the site during the April 2016 event was slightly above the historic average groundwater elevation.

Figure 3-1 illustrates the April 2016 potentiometric surface map. Referring to Figure 3-1, the prevailing groundwater flow direction in the vicinity of the COCs plume footprint remains from the southwest to the northeast as it has since October 2011.

#### 3.4.2 Horizontal Extent of COC Plumes

Figure 3-2 summarizes the analytical results of the monitored dissolved COCs from the April 2016 sampling event for each well sampled. Figures 3-3 through 3-10 illustrate each of the eight monitored COC plumes. Table 3-4 is a compilation of available analytical data from groundwater monitoring events conducted since February 1991. The following sub-sections describe the spatial and temporal analysis of the horizontal extent of the COC plumes.

#### 3.4.2.1 CVOC Plume

The CVOC plume consists of Tetrachloroethylene or Perchloroethylene (PCE), Trichloroethylene (TCE), cis-1, 2 Dichloroethylene (DCE), and Vinyl Chloride (VC) COCs. Based on current analytical results, it is apparent that the overall extent and concentration of the collective CVOC plume at the site has significantly decreased since the inception of the VIRP sampling program in October 2011. Some residual CVOC concentrations are present in certain areas. The following subsections describe spatial and temporal changes of monitored individual CVOC constituents since October 2011.

**PCE Plume:**

Figure 3-3 illustrates the horizontal extent of the PCE plume during the April 2016 sampling event. The current PCE plume is composed of two distinctly separated areas of contamination, with the peak concentration of the first area centered near IW-1R at the up-gradient southwestern end of the original CVOC plume footprint, and the peak concentration of the second area centered near MW-29 near the down-gradient northeastern end of the original CVOC plume footprint.

Within the up-gradient portion of the original CVOC plume footprint, the peak PCE concentration at IW-1R increased from 230 µg/L to 300 µg/L during the September/October 2015 and April 2016 sampling events, respectively. It is noteworthy that PCE concentration at MW-26R, near well IW-1R, remained below detection limits.

Within the down-gradient portion of the original CVOC plume footprint, the overall extent and concentration in this area has fluctuated since the first VIRP sampling event in October 2011, however, overall, there has been a decreasing concentration trend. In particular, the PCE concentration remains below detection limits at MW-32, where the plume leading edge was formerly located, and has decreased at MW-33. However, the PCE concentration increased at MW-29 from 110 µg/L to 200 µg/L.

In summary, the overall extents of the PCE plume have reduced substantially or remained stable over time and concentrations at sampled wells are generally trending downward towards RRS values. This indicates that MNA is effective in reducing the PCE mass concentrations especially at the down-gradient leading edge of the plume closest to the Savannah River.

**TCE Plume:**

Figure 3-4 illustrates the horizontal extent of the TCE plume during the April 2016 sampling event. Similar to the PCE footprint, the TCE plume is also composed of two distinct peaks of contamination. The up-gradient area of peak concentration is located between wells LAW-PZ-8R and IW-18, while the downgradient peak is located near well MW-29. The TCE concentration at IW-1R increased from 100 µg/L in September/October 2015 to 140 µg/L in April 2016. At well MW-29, the TCE concentration increased from 130 µg/L in September/October 2015 to 230 µg/L

in April 2016. These shifts were accompanied by decreases at nearby wells, particularly at MW-33. As such, the formerly connected plumes -above the delineation criterion of 5 µg/L – has split into two distinct plumes. The increases in TCE concentrations observed are likely attributable to the degradation of PCE.

In summary, the overall extent of the TCE plume has remained stable over time. Typically, TCE is produced from reductive dechlorination of PCE. The substantial transformation of PCE to TCE is indicative that MNA is effective in reducing the PCE to TCE.

**DCE Plume:**

Figure 3-5 illustrates the horizontal extent of the DCE plume during the April 2016 sampling event. Consistent with the other CVOC plumes during this sampling event, the DCE plume is divided into two distinct peaks with concentrations above the RRS of 1,022 µg/L. The up-gradient area of peak concentration is located near IW-1R, while the downgradient peak is located near MW-29. The DCE concentration at IW-1R increased from 8,800 µg/L in September/October 2015 to 9,500 µg/L in April 2016. At MW-29, the TCE concentration increased from 9,000 µg/L in September/October 2015, doubling to 18,000 µg/L in April 2016. Despite the increase in concentration at the peaks of the DCE plume, the overall extents reduced corresponding to reductions in concentration at wells MW-33 and MW-28.

In summary, the overall extent of the DCE plume has reduced or has remained stable over time and concentrations are generally decreasing and trending downwards towards RRS values. Considering that DCE is a second-step transformation product from the reductive dechlorination of PCE, substantial reduction in PCE concentration and production of DCE is confirming that MNA is effective in reducing the DCE concentrations. The increases in DCE concentration are likely attributable to the degradation of PCE and TCE over time.

**VC Plume:**

Figure 3-6 illustrates the horizontal extent of the VC plume during the April 2016 sampling event. The plume area is consistent with previous CVOC plumes and exhibits up-gradient and down-gradient peaks, as with other COC plumes during this sampling event. The up-gradient peak occurs at IW-18, where the concentration increased from 710 µg/L in September/October 2015 to 1,000 µg/L in April 2016. The peak down-gradient concentration occurs near MW-29, where the concentration increased from 1,000 µg/L in September/October 2015 to 1,500 µg/L in April 2016. Notably, the concentration observed at MW-33 decreased in April 2016, causing the portion of the plume with concentrations above 100 µg/L to split into two areas.

In summary, the VC plume has remained stable and has significantly reduced in both areal extent and in concentration relative to the original October 2011 footprint. As with the other CVOC daughter product plumes, minor increases in concentration of VC are attributable to the degradation of parent CVOC products.

#### 4.4.2.2 VOC Plume

The COCs monitored within the collective VOC plume consist of Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX). Since the first VIRP sampling event, conducted in October 2011, the VOC plume concentrations within the original VOC plume footprint have declined substantially. The following subsections describe spatial and temporal changes of individual VOC constituents since VIRP sampling was initiated in October 2011.

**Benzene Plume:**

Figure 3-7 illustrates the horizontal extent of the benzene plume during the April 2016 sampling event. The benzene plume is composed of two isolated areas of concentrations above RRS and the delineation criterion near the up-gradient and down-gradient portions of the original VOC plume footprint. The up-gradient benzene plume continues to maintain stability and increased slightly at LAW-PZ-8R from 1,200 µg/L in September/October 2015 to 1,500 µg/L in April 2016. The down-gradient plume, centered near MW-29, has remained relatively stable over time as compared to the original footprint.

In summary, the Benzene plume has reduced significantly in concentration and extent as compared to the original plume footprint in October 2011 and continues to trend downward towards RRS values.

**Toluene Plume:**

Figure 3-8 illustrates the horizontal extent of the toluene plume from the April 2016 sampling event. The peak concentration of the toluene plume has been centered in the area between wells IW-1R and LAW-PZ-8R since the April 2014 sampling event and has remained below RRS for the duration of the VIRP. At IW-1R the toluene concentration decreased from 200 µg/L in September/October 2015 to 190 µg/L in April 2016. This indicates a continued downward trend in concentration and demonstrates the effectiveness of MNA in remediating toluene.

**Ethylbenzene Plume:**

Figure 3-9 illustrates the horizontal extent of the ethylbenzene plume from the April 2016 sampling event. The ethylbenzene plume is divided into distinct up-gradient and down-gradient portions. The up-gradient portion was centered near LAW-PZ-8R, while the downgradient portion was centered near MW-29. The Ethylbenzene concentration at LAW-PZ-8R decreased from a concentration of 6,200 µg/L in September/October 2015 to 6,900 µg/L in April 2016. The ethylbenzene concentration at MW-29 increased from 1,700 µg/L in September/October 2015 to 2,500 µg/L in April 2016.

In summary, the Ethylbenzene plume has significantly reduced in concentration and extent in comparison to the original plume footprint in October 2011 and continues to trend downward

towards RRS values. This indicates that MNA has been effective in reducing ethylbenzene concentrations.

**Total Xylenes Plume:**

Figure 3-10 illustrates the horizontal extent of the total xylenes plume from the April 2016 sampling event. Similar to the ethylbenzene plume, the total xylenes plume is divided into up-gradient and downgradient portions centered near wells LAW-PZ-8R and MW-29, respectively. The total xylenes concentration at LAW-PZ-8R increased from 78,000 µg/L in September/October 2015 to 96,000 µg/L in April 2016. The total xylenes concentration at MW-29 increased from 4,700 µg/L in September/October 2015 to 7,200 µg/L in April 2015.

In summary, the total xylenes plume has significantly reduced in concentration and extent, as compared to the original plume footprint in October 2011, and remains stable in concentration and extent.

### 3.4.3 Vertical Extent of COC Plumes

The historical groundwater sampling results for the deep well MW-14, located within the original COCs footprint, are tabulated in Table 3-4. Since the redevelopment and integration of well MW-14 into the regular CVOC and VOC sampling schedule in October 2013, EIC confirmed that all monitored COC concentrations in the well have remained below delineation standards and all but one parameter were below method detection limits - MDLs. In the EPD's comment letter to VTSI, dated April 3, 2014, the EPD concurred with EIC that vertical delineation is complete (EPD, 2014).

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# 4.0 SUMMARY

Following the schedule included in the approved VIRP, EIC conducted the final VIRP semi-annual groundwater monitoring event in April of 2016. This event was accompanied by a survey that defined the vertical and horizontal locations of wells IW-1R and MW-28, which had recently been added to the monitoring well network. During this event, the overall extent of the COC plumes either reduced or remained stable. However, the peak concentrations within some of the plumes increased. Nevertheless, the overall extent of the plume, relative to the October 2011 baseline VIRP monitoring event, has reduced.

SECTION

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# 5.0 REFERENCES


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# APRIL 2016 GROUNDWATER MONITORING REPORT

# TABLES

# Table 3-1: April 2016 Well Gauging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Gauging Date | TOC Elevation* (ft.) | DTP (ft.) | DTW** (ft.) | Groundwater Surface Elevation (ft.) | Notes |
|---|---|---|---|---|---|---|
| IW-1R (1) | 4/6/2016 | 10.51 | ND | 3.00 | 7.51 | |
| IW-18 (1) | 4/7/2016 | 10.07 | ND | 3.15 | 6.92 | |
| LAW-PZ-8R (1) | 4/6/2016 | 9.22 | ND | 2.50 | 6.72 | |
| MW-14 (2) | 4/5/2016 | 8.86 | ND | 6.60 | 2.26 | |
| MW-16 (1) | 4/5/2016 | 17.01 | ND | 11.73 | 5.28 | |
| MW-17R (1) | 4/7/2016 | 15.89 | ND | 10.77 | 5.12 | |
| MW-18R (1) | 4/5/2016 | 14.12 | ND | 6.25 | 7.87 | |
| MW-19 (1) | 4/4/2016 | 14.91 | ND | 6.50 | 8.41 | |
| MW-23 (1) | 4/4/2016 | 10.39 | ND | 3.30 | 7.09 | |
| MW-24R (1) | 4/5/2016 | 11.81 | ND | 5.43 | 6.38 | |
| MW-25 (1) | 4/4/2016 | 14.76 | ND | 6.35 | 8.41 | |
| MW-26R (1) | 4/6/2016 | 10.59 | ND | 3.05 | 7.54 | |
| MW-27 (1) | 4/4/2016 | 9.38 | ND | 4.57 | 4.81 | |
| MW-28 (1) | 4/6/2016 | 11.36 | ND | 3.70 | 7.66 | |
| MW-29 (0.75) | 4/6/2016 | 11.73 | ND | 5.82 | 5.91 | |
| MW-30 (2) | 4/6/2016 | 11.23 | ND | 4.90 | 6.33 | |
| MW-31 (2) | 4/4/2016 | 9.67 | ND | 4.70 | 4.97 | |
| MW-32 (2) | 4/7/2016 | 11.70 | ND | 5.90 | 5.80 | |
| MW-33 (2) | 4/5/2016 | 8.96 | ND | 2.33 | 6.63 | |
| MW-34 (2) | 4/6/2016 | 10.81 | ND | 3.40 | 7.41 | |
| MW-35 (2) | 4/7/2016 | 10.40 | ND | 5.55 | 4.85 | |
| MW-36 (2) | 4/7/2016 | 10.42 | ND | 6.40 | 4.02 | |
| MW-37 (2) | 4/6/2016 | 11.57 | ND | 4.10 | 7.47 | |
| PAN-MW-9 (2) | 4/5/2016 | 12.59 | ND | 6.30 | 6.29 | |
| PAN-MW-10 (2) | 4/5/2016 | 13.81 | ND | 8.75 | 5.06 | |

**Notes:**
ID = Identity
TOC = Top of Casing
UNK = Unknown
NM = Not Measured
ND = Not Detected
* TOC elevations are based on well surveys conducted by EMC Engineering on June 30, 2011, January 24, 2013, and on January 20, 2014 and Mock Surveying in April 2016 and are of the NGVD 29 Datum convention
** DTW measurements were recorded by EIC from 4/4/2016 to 4/7/2016 prior to purging using a Solinst Oil/Water Interface Meter (probe), Model: 122

# Table 3-2: April 2016 Well Purging Data
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Date of Purge | Purge Time (minutes) | Total Purge Volume (mL) | Average Purge Rate (mL/minute) | Initial Tubing Intake Depth below TOC* (ft.) | Final Tubing Intake Depth below TOC (ft.) |
|---|---|---|---|---|---|---|
| IW-1R (1) | 4/6/2016 | 27 | 1,600 | 59 | 14.00 | 14.00 |
| IW-18 (1) | 4/6/2016 | 93 | 3,000 | 32 | 14.50 | 14.50 |
| LAW-PZ-8R (1) | 4/6/2016 | 101 | 4,000 | 40 | 6.80 | 6.80 |
| MW-14 (2) | 4/5/2016 | 65 | 1,450 | 22 | 44.50 | 44.50 |
| MW-16 (1) | 4/5/2016 | 143 | 2,100 | 15 | 12.90 | 13.40 |
| MW-17R (1) | 4/7/2016 | 108 | 3,100 | 29 | 17.50 | 17.50 |
| MW-18R (1) | 4/4/2016 | 76 | 4,700 | 62 | 11.50 | 11.50 |
| MW-19 (1) | 4/5/2016 | 90 | 4,700 | 52 | 12.50 | 12.50 |
| MW-23 (1) | 4/4/2016 | 88 | 4,400 | 50 | 8.50 | 8.50 |
| MW-24R (1) | 4/5/2016 | 31 | 1,900 | 61 | 13.50 | 13.50 |
| MW-25 (1) | 4/4/2016 | 56 | 2,800 | 50 | 14.50 | 14.50 |
| MW-26R (1) | 4/6/2016 | 55 | 5,100 | 93 | 10.00 | 10.00 |
| MW-27 (1) | 4/4/2016 | 86 | 3,300 | 38 | 12.50 | 12.50 |
| MW-28 (1) | 4/6/2016 | 30 | 2,200 | 73 | 9.00 | 9.00 |
| MW-29 (0.75) | 4/4/2016 | 76 | 2,200 | 29 | 18.50 | 18.50 |
| MW-30 (2) | 4/6/2016 | 15 | 1,800 | 120 | 10.00 | 10.00 |
| MW-31 (2) | 4/4/2016 | 30 | 3,900 | 130 | 15.00 | 15.00 |
| MW-32 (2) | 4/7/2016 | 15 | 1,200 | 80 | 11.00 | 11.00 |
| MW-33 (2) | 4/5/2016 | 14 | 2,000 | 143 | 10.00 | 10.00 |
| MW-34 (2) | 4/6/2016 | 15 | 2,000 | 133 | 11.00 | 11.00 |
| MW-35 (2) | 4/7/2016 | 36 | 3,600 | 100 | 10.00 | 10.00 |
| MW-36 (2) | 4/7/2016 | 31 | 3,300 | 106 | 11.00 | 11.00 |
| MW-37 (2) | 4/6/2016 | 30 | 3,800 | 127 | 10.00 | 10.00 |
| PAN-MW-9 (2) | 4/5/2016 | 27 | 1,750 | 65 | 10.50 | 10.50 |
| PAN-MW-10 (2) | 4/6/2016 | 20 | 2,900 | 145 | 12.25 | 12.25 |

**Notes:**

ID = Identity

mL = Milliliter

TOC = Well Top of Casing

* During well purging, the Teflon-lined tubing was lowered as needed when the water level fell to the depth of the intake, causing air to be recovered.

# Table 3-3: Groundwater Natural Attenuation Parameters
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Groundwater Quality Field Parameters | | | | | |
|---|---|---|---|---|---|---|
| | Temp (Celcius) | pH (SU) | ORP (mV) | Specific Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) |
| IW-1R (1) | 25.79 | 4.16 | 126 | 0.415 | 8.3 | 0.44 |
| IW-18 (1) | 31.34 | 4.84 | 91 | 0.932 | 195.0 | 0.34 |
| LAW-PZ-8R (1) | 24.21 | 5.44 | 31 | 0.763 | 586.0 | 0.34 |
| MW-14 (2) | 23.18 | 6.86 | 4 | 0.494 | 0.0 | 1.28 |
| MW-16 (1) | 20.63 | 5.44 | 87 | 0.452 | 12.5 | 0.65 |
| MW-17R (1) | 27.37 | 5.80 | 21 | 0.354 | 22.2 | 0.81 |
| MW-18R (1) | 24.59 | 4.10 | 218 | 0.298 | 121.0 | 0.48 |
| MW-19 (1) | 24.18 | 5.85 | 115 | 0.928 | 0.0 | 0.44 |
| MW-23 (1) | 24.32 | 6.24 | 113 | 0.760 | 3.1 | 0.95 |
| MW-24R (1) | 27.29 | 4.65 | 99 | 0.372 | 9.9 | 0.43 |
| MW-25 (1) | 24.84 | 5.87 | 21 | 0.570 | 9.8 | 0.53 |
| MW-26R (1) | 26.35 | 5.65 | 42 | 0.644 | 9.9 | 0.46 |
| MW-27 (1) | 23.64 | 5.90 | 70 | 0.452 | 9.5 | 0.93 |
| MW-28 (1) | 19.81 | 6.07 | 109 | 0.379 | 22.6 | 3.13 |
| MW-29 (0.75) | 20.83 | 4.39 | 93 | 1.21 | 32.3 | 0.56 |
| MW-30 (2) | 24.42 | 4.34 | 139 | 0.262 | 3.2 | 0.47 |
| MW-31 (2) | 27.40 | 6.24 | 143 | 0.658 | 0.0 | 0.74 |
| MW-32 (2) | 26.67 | 5.65 | 0 | 0.827 | 0.0 | 3.69 |
| MW-33 (2) | 21.30 | 5.04 | 72 | 0.363 | 35.8 | 0.53 |
| MW-34 (2) | 22.14 | 4.25 | 218 | 0.138 | 47.5 | 0.61 |
| MW-35 (2) | 21.23 | 6.51 | 13 | 0.509 | 29.0 | 0.68 |
| MW-36 (2) | 22.29 | 6.23 | -11 | 1.22 | 22.3 | 0.58 |
| MW-37 (2) | 19.30 | 5.21 | 145 | 0.280 | 46.6 | 0.75 |
| PAN-MW-9 (2) | 21.49 | 4.86 | 61 | 0.597 | 81.5 | 0.60 |
| PAN-MW-10 (2) | 25.07 | 5.88 | 137 | 0.536 | 1.5 | 3.70 |

**Notes:**
Field parameters were recorded by EIC from 4/04/2016 to 4/07/2016
had stabilized and prior to sample collection.

Parameters were measured with a Horiba U-52 Water Quality Meter with a Flow-Through Cell.
ID= Identity
SU= Standard Unit
mV= Millivolts
mS/cm= Microsiemens per centimeter
NTU= Nephelometric Turbidity Unit
mg/L= Milligrams per liter

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| IW-1R | Apr-14 | 310 | | 210 | | 13,000 | | 640 | | 130 | | 300 | | 2,900 | | 25,000 | |
| | Oct-14 | 170 | | 190 | | 11,000 | | 450 | | 130 | J | 320 | | 2,200 | | 19,000 | |
| | Apr-15 | 310 | | 150 | J | 9,900 | | 440 | | 110 | J | 260 | | 2,300 | | 17,000 | |
| | Oct-15 | 230 | | 100 | J | 8,800 | | 330 | | 180 | J | 200 | | 2,200 | | 19,000 | |
| | Apr-16 | 300 | | 140 | J | 9,500 | | 410 | | 300 | | 190 | J | 3,000 | | 22,000 | |
| IW-18 | Oct-11 | 55 | | 58 | | 4,400 | | 220 | | 36 | | 7.3 | J | 38 | | 93 | |
| | Jan-12 | 48 | J | 43 | J | 4,800 | | 230 | | 29 | J | <50 | | 33 | J | 86 | |
| | Apr-12 | 44 | J | 46 | J | 4,500 | | 210 | | 25 | J | <50 | | 24 | J | 55 | J |
| | Jul-12 | 31 | J | 33 | J | 4,500 | | 160 | | 21 | J | <50 | | 29 | J | 92 | J |
| | Oct-12 | 36 | J | 37 | J | 5,200 | | 320 | | 24 | J | <50 | | 31 | J | 110 | |
| | Jan-13 | 43 | J | 44 | J | 6,000 | | 310 | | 25 | J | <50 | | 40 | J | 170 | |
| | Apr-13 | 42 | | 37 | | 6,000 | | 410 | | 26 | | 13 | | 49 | | 270 | |
| | Jul-13 | 27 | | 31 | | 5,900 | | 770 | | 30 | | 21 | | 110 | | 1,000 | |
| | Oct-13 | 29 | | 26 | | 6,400 | | 670 | | 26 | | 12 | | 56 | | 510 | |
| | Jan-14 | 19 | | 28 | | 5,300 | | 1,900 | | 60 | | 24 | | 100 | | 810 | |
| | Apr-14 | 39 | | 34 | | 7,400 | | 1,100 | | 73 | | 35 | | 220 | | 1,900 | |
| | Oct-14 | 11 | J | 12 | J | 2,900 | | 1,500 | | 170 | | 28 | J | 130 | | 1,100 | |
| | Apr-15 | <7.4 | | 8.4 | J | 920 | | 830 | | 350 | | 14 | | 180 | | 1,300 | |
| | Oct-15 | 39 | | 25 | | 2,400 | | 710 | | 200 | | 35 | | 300 | | 3,000 | |
| | Apr-16 | 180 | | 110 | | 4,600 | | 1,000 | | 230 | | 120 | | 1,100 | | 14,000 | |
| LAW-PZ-8 / LAW-PZ-8R | Sep-97 | 50/500 | | NR | | NR | | 350/<500 | | NS | | NS | | NS | | NS | |
| | Dec-98 | <1000 | | NR | | NR | | <1,000 | | <1000 | | <1000 | | 4,300 | | 5,600 | |
| | Nov-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | <250 | | <250 | | 1,800 | | 890 | | <250 | | <250 | | 5,100 | | 59,000 | |
| | Jun-01 | <1200 | | <1200 | | 3,900 | | 670 | | 69 | J | 220 | J | 5,700 | | 64,000 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | 70 | J | 18 | J | 350 | | 120 | | 42 | J | <100 | | 3,700 | | 42,000 | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | 300 | | <100 | | 31,000 | | 1,700 | | 190 | | 1,200 | | 6,100 | | 84,000 | |
| | Dec-06 | 240 | | 72 | | 12,000 | | 630 | | 47 | | 410 | | 3,000 | | 41,000 | |
| | Mar-07 | <250 | | <250 | | 16,000 | | 1,200 | | <500 | | 760 | | 5,000 | | 70,000 | |
| | Sep-07 | 240 | | <100 | | 18,000 | | 1,200 | | 310 | | 720 | | 4,400 | | 54,000 | |
| | May-08 | 380 | | 34 | | 6,900 | | 660 | | 450 | | 330 | | 6,500 | | 94,000 | |
| | Dec-08 | 570 | | 52 | | 4,600 | | 360 | | 290 | | 290 | | 4,900 | | 55,000 | |
| | Apr-09 | 510 | | <250 | | <250 | | 560 | | 320 | | 280 | | 3,800 | | 48,000 | |
| | Sep-09 | 99 | | 34 | | 4,500 | | 470 | | 390 | | 260 | | 4,100 | | 47,000 | |
| | Apr-10 | 240 | | 49 | | 5,100 | | 480 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 150 | | 28 | J | 22,000 | | 1,500 | | 1,600 | | 1,100 | | 8,000 | | 73,000 | |
| | Jan-12 | 130 | J | <500 | | 17,000 | | 1,600 | | 1,700 | | 930 | | 7,500 | | 88,000 | |
| | Apr-12 | 99 | J | <500 | | 17,000 | | 1,800 | | 2,300 | | 1,100 | | 7,500 | | 110,000 | |
| | Jul-12 | 110 | J | <500 | | 16,000 | | 1,200 | | 2,000 | | 820 | | 7,100 | | 91,000 | |
| | Oct-12 | 83 | | <500 | | 8,000 | | 870 | | 1,300 | | 530 | | 7,300 | | 100,000 | |
| | Jan-13 | 99 | | <500 | | 13,000 | | 1,100 | | 2,000 | | 800 | | 7,500 | | 100,000 | |
| | Apr-13 | 71 | | 12 | | 9,100 | | 960 | | 1,400 | | 570 | | 7,200 | | 110,000 | |
| | Jul-13 | 30 | | 5.6 | J | 11,000 | | 990 | | 1,900 | | 650 | | 7,600 | | 110,000 | |
| | Oct-13 | 44 | | 8.5 | J | 8,500 | | 830 | | 1,500 | | 510 | | 6,800 | | 110,000 | |
| | Jan-14 | 38 | | <1.9 | | 7,200 | | 980 | | 1,200 | | 370 | | 4,000 | | 88,000 | |
| | Apr-14 | 22 | | 8.6 | J | 7,400 | | 840 | | 1,200 | | 400 | | 4,900 | | 58,000 | |
| | Oct-14 | <150 | | <130 | | 15,000 | | 1,900 | | 3,400 | | 1,100 | | 13,000 | | 180,000 | |
| | Apr-15 | <740 | | <480 | | 4,100 | | <500 | | 1,100 | | <480 | | 6,900 | | 87,000 | |
| | Oct-15 | <740 | | <480 | | 5,500 | | <500 | | 1,200 | | <480 | | 6,200 | | 78,000 | |
| | Apr-16 | <740 | | <480 | | 5,200 | | <500 | | 1,500 | | <480 | | 6,900 | | 96,000 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-14 | Feb-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-96 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-97 | 33 | | NR | | NR | | <5 | | NS | | NS | | NS | | NS | |
| | Dec-98 | <1 | | NR | | NR | | <1 | | <1 | | <1 | | **2.9** | | **1.4** | |
| | Nov-99 | <5 | | <5 | | <2 | | <2 | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | NS | | <2 | | <2 | | <5 | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-13 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | **3.5** | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.11 | | <0.33 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | **0.46** | **J** | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-15* | Feb-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-91 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-96 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-97 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-98 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Nov-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-99 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-00 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 5.3 | | **14** | | <5 | | NS | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | 12 | | **12** | | **4** | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <3 | | **4** | | **3** | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | 17 | | NS | | NS | | NS | | NS | |
| | Apr-11 | 69 | | 39 | | 2,200 | | 150 | | 34 | | **8.3** | **J** | **26** | | **86** | |
| | Oct-15 | 69 | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-16 | Oct-00 | NS | | <1 | | 110 | | 2.2 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | 41 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | 33 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | 36 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | 12 | | 120 | | 4 | | <2 | | <2 | | <2 | | 7 | |
| | Dec-06 | <2 | | 24 | | 120 | | 8 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | 9 | | 71 | | 320 | | 25 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | 260 | | 63 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | 61 | | 53 | | <2 | | <2 | | 6 | | <5 | |
| | Dec-08 | <5 | | <5 | | 60 | | 49 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | 78 | | 82 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | 4.1 | | 78 | | 69 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | <5 | | <5 | | 89 | | 83 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.57 | J | 0.66 | J | 160 | | 77 | | 0.52 | J | <1 | | 0.3 | J | 1.9 | J |
| | Jan-12 | 0.67 | J | 0.94 | J | 130 | | 85 | | 0.44 | J | 0.42 | J | 0.12 | J | 1.3 | J |
| | Apr-12 | <1 | | 0.94 | J | 140 | | 200 | | 0.74 | J | 0.33 | J | 1.7 | | 21 | |
| | Jul-12 | 0.28 | J | 0.63 | J | 87 | | 48 | | 0.41 | J | <1 | | 0.23 | J | 1.1 | J |
| | Oct-12 | <2 | | 0.37 | J | 200 | | 94 | | <2 | | <2 | | 0.52 | J | 1.7 | J |
| | Jan-13 | <1 | | <1 | | 120 | | 78 | | 0.27 | J | <1 | | 0.49 | J | 1.4 | J |
| | Apr-13 | <0.22 | | 0.6 | J | 140 | | 85 | | 0.42 | J | 0.24 | J | 2.1 | | 8 | |
| | Jul-13 | <0.16 | | <0.19 | | 320 | | 100 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | 0.58 | J | 1.1 | | 110 | | 86 | | 0.83 | | <0.14 | | 1.2 | | 5.6 | |
| | Jan-14 | <0.16 | | <0.19 | | 170 | | 180 | | 1.5 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | 1.1 | | 310 | | 160 | | 2 | | <0.14 | | 8.3 | | 4.1 | |
| | Oct-14 | <0.15 | | 0.34 | J | 130 | | 81 | | 1.3 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <1.5 | | 6 | | 210 | | 120 | | 2.7 | | <0.96 | | 3.4 | | 1.3 | J |
| | Oct-15 | <1.5 | | <0.96 | | 150 | | 75 | | 1.7 | J | <0.96 | | <0.66 | | <0.46 | |
| | Apr-16 | <1.5 | | 10 | | 350 | | 140 | | 3.5 | J | <0.96 | | 1.2 | J | 1.3 | J |
| MW-17/ MW-17R | Oct-00 | NS | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Jul-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-04 | <5 | | <5 | | <5 | | <2 | | <10 | | 5 | | <5 | | <5 | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <5 | | <5 | | <5 | | <2 | | <10 | | 8 | | <5 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | 7 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | 4 | | 27 | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | 0.2 | J | <1 | | 0.39 | J | <1 | | 0.55 | J | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | 0.44 | J | 0.35 | J | 1.5 | | 0.65 | J |
| | Apr-12 | <1 | | 0.13 | J | 2.8 | | 0.19 | J | 0.48 | J | <1 | | 0.7 | J | 0.22 | J |
| | Jul-12 | 1.3 | | 1.2 | | 9.2 | | <1 | | 0.29 | J | <1 | | 0.62 | J | 0.28 | J |
| | Oct-12 | 16 | | 5.2 | | 13 | | <1 | | <1 | | <1 | | 1.4 | | 0.5 | J |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.84 | J | <2 | |
| | Apr-13 | 4.1 | | 1.3 | | 1.6 | | <0.30 | | 0.18 | J | <0.15 | | 1.2 | | 0.33 | J |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 1.5 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 0.83 | J | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | 0.95 | J | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | 0.66 | J | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | 0.79 | J | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | 0.59 | J | 0.23 | J |
| | Apr-16 | <0.74 | | <0.48 | | 0.43 | J | <0.50 | | <0.43 | | <0.48 | | 0.58 | J | 0.33 | J |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-18/ MW18R | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | **2** | | **22** | |
| | Mar-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Jul-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-04 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | **2** | | **16** | |
| | Dec-08 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.48 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <<0.33 | | <0.23 | |
| MW-19 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | **0.22** | **J** | <1 | | <1 | | <1 | | **1.7** | | **12** | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | **0.14** | **J** | <0.30 | | <0.18 | | <0.15 | | **0.21** | **J** | **0.41** | **J** |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-20 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-15 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-15 | NS | | NS | | Ns | | NS | | NS | | NS | | NS | | NS | |
| | Apr-16 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| MW-21 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | 120 | | **1.8** | | <1 | | <1 | | <1 | | <1 | | **4.2** | | **38** | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Aug-05 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Jun-06 | 12 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Oct-06 | <2 | | <5 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Dec-06 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | Mar-07 | <5 | | <5 | | <5 | | <2 | | <10 | | <5 | | <5 | | <5 | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-15 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-15 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-16 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-22/ MW-22R | Jun-01 | 8,700 | | 900 | | 3,100 | | 380 | | <500 | | <500 | | 600 | | 83 | J |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 1,000 | | 480 | | 930 | | <100 | | <250 | | <250 | | <250 | | <500 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 7,600 | | 700 | | 2,300 | | 210 | | <10 | | <5 | | 2,300 | | <50 | |
| | Jul-04 | 7,000 | | 71 | | 310 | | 36 | | <10 | | <5 | | 14 | | <22 | |
| | Sep-04 | 7,200 | | <250 | | 610 | | <100 | | <500 | | <250 | | <250 | | <250 | |
| | May-05 | 5,700 | | 220 | | 840 | | <100 | | <100 | | <100 | | <100 | | <250 | |
| | Aug-05 | 2,400 | | 47 | | 240 | | 37 | | <5 | | <5 | | <5 | | 10 | |
| | Jun-06 | 680 | | 71 | | 3,300 | | 140 | | <250 | | <130 | | 150 | | <130 | |
| | Oct-06 | 2,600 | | <130 | | 490 | | 89 | | <250 | | <130 | | <130 | | <130 | |
| | Dec-06 | 3,200 | | 60 | | 480 | | 100 | | <2 | | <2 | | 20 | | 18 | |
| | Mar-07 | 3,400 | | <130 | | 730 | | 100 | | <250 | | <130 | | <130 | | <130 | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | 6,900 | | 89 | | 930 | | 270 | | 2 | | <2 | | 10 | | 26 | |
| | Dec-08 | 4,400 | | 100 | | 2,100 | | 300 | | <5 | | <5 | | 7 | | 12 | |
| | Apr-09 | 1,900 | | 88 | | 1,700 | | 280 | | <5 | | <5 | | 11 | | 22 | |
| | Sep-09 | 3,000 | | 88 | | 1,000 | | 220 | | 4.1 | | <2 | | 9.2 | | 12 | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jul-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-12 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jul-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-13 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Jan-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-14 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-15 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Oct-15 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| | Apr-16 | NU | | NU | | NU | | NU | | NU | | NU | | NU | | NU | |
| MW-23 | Jun-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Nov-01 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 760 | | 2,300 | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <2 | | <2 | | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | 0.23 | J | 0.42 | J |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.40 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-24/ MW-24R | Nov-01 | 400 | | 95 | | 240 | | 50 | | <12 | | <12 | | <12 | | <25 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 97 | | 51 | | 100 | | 22 | | 52 | | <10 | | <10 | | <20 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | 1,300 | | 180 | | 500 | | 49 | | 11 | | <5 | | 5 | | 28 | |
| | Oct-06 | 580 | | 150 | | 590 | | 33 | | <20 | | <20 | | <20 | | <50 | |
| | Dec-06 | 1,110 | | 680 | | 990 | | 68 | | 13 | | <2 | | 10 | | 35 | |
| | Mar-07 | 130 | | 200 | | 770 | | 17 | | 14 | | <5 | | <5 | | 12 | |
| | Sep-07 | 62 | | 37 | | 820 | | 20 | | 12 | | <2 | | 2 | | 7 | |
| | May-08 | 130 | | 24 | | 82 | | 9 | | 16 | | <2 | | <2 | | 11 | |
| | Dec-08 | 110 | | 25 | | 340 | | 12 | | 15 | | <5 | | <5 | | <5 | |
| | Apr-09 | 93 | | 22 | | 240 | | 18 | | 12 | | <5 | | <5 | | <5 | |
| | Sep-09 | 57 | | 20 | | 120 | | 47 | | 10 | | <2 | | <2 | | <5 | |
| | Apr-10 | 35 | | 10 | | 150 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 12 | | 5.8 | | 180 | | 25 | | 10 | | <5 | | 1.4 | J | 4.2 | J |
| | Jan-12 | 7.5 | | 3.9 | | 160 | | 16 | | 8.2 | | 0.4 | J | 0.98 | J | 11 | |
| | Apr-12 | 6.8 | | 4.7 | | 230 | | 7.4 | | 11 | | 1.8 | J | 16 | | 230 | |
| | Jul-12 | 6.7 | | 3.6 | | 220 | | 9.2 | | 7.6 | | <2 | | <2 | | <4 | |
| | Oct-12 | 6 | | 3.4 | J | 320 | | 54 | | 8.1 | | <5 | | 3.4 | J | 20 | |
| | Jan-13 | 3 | J | 2.1 | J | 410 | | 71 | | 6.9 | | <5 | | 4 | J | 22 | |
| | Apr-13 | 3.5 | | 2.8 | | 540 | | 64 | | 6.2 | | 0.71 | J | 4.4 | | 26 | |
| | Jul-13 | 5.3 | | 5.4 | | 800 | | 140 | | 8.2 | | 1.2 | | 11 | | 58 | |
| | Oct-13 | 3.3 | | 2.2 | | 450 | | 43 | | 6 | | 0.41 | J | 0.79 | J | 6.3 | |
| | Jan-14 | 2.6 | | 4.4 | | 570 | | <0.19 | | 6.1 | | <0.14 | | <0.19 | | 2.7 | |
| | Apr-14 | 2 | | 1.8 | | 500 | | <0.19 | | 5.8 | | 0.48 | J | 0.45 | J | 2 | |
| | Oct-14 | 1.7 | J | <0.65 | | 360 | | 38 | | 5.6 | | <1.7 | | 1.3 | J | <1.0 | |
| | Apr-15 | <3.7 | | <2.4 | | 300 | | 16 | | 3.9 | J | <2.4 | | <1.7 | | <1.2 | |
| | Oct-15 | <3.7 | | <2.4 | | 360 | | 24 | | 4.4 | J | <2.4 | | <1.7 | | <1.2 | |
| | Apr-16 | <3.7 | | <2.4 | | 400 | | <2.5 | | 3.7 | J | <2.4 | | <1.7 | | <1.2 | |
| MW-25 | Nov-01 | <5 | | <5 | | <5 | | <10 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <2 | | <5 | | <5 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | <2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.72 | J | 8.7 | |
| | Jan-12 | <1 | | <1 | | 0.21 | J | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | 0.27 | J | <1 | | 0.57 | J | <1 | | <1 | | <1 | | 3.2 | | 20 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | <0.15 | | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.43 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-26/ MW-26R | Nov-01 | 2,400 | | 100 | | 1,100 | | 210 | | <100 | | <100 | | <100 | | <200 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | 300 | | 14 | | 180 | | 38 | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | 120 | | 8 | | 120 | | 28 | | 17 | | <2 | | <2 | | <5 | |
| | Aug-05 | 420 | | 22 | | 210 | | 47 | | 35 | | <5 | | <5 | | 6 | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | <2 | | 2 | | 2,800 | | 330 | | 16 | | 45 | | 380 | | 2,700 | |
| | Dec-06 | 6 | | 4 | | 5,100 | | 560 | | 20 | | 83 | | 1,500 | | 13,000 | |
| | Mar-07 | <5 | | <5 | | 2,600 | | 580 | | 17 | | 45 | | 1,100 | | 6,900 | |
| | Sep-07 | <2 | | <2 | | 240 | | 240 | | 9 | | 4 | | 71 | | 250 | |
| | May-08 | 5 | | <2 | | 410 | | 83 | | 12 | | 10 | | 260 | | 1,300 | |
| | Dec-08 | <5 | | <5 | | 14 | | 19 | | <5 | | 5 | | 23 | | 120 | |
| | Apr-09 | <5 | | <5 | | 200 | | 76 | | 14 | | 21 | | 310 | | 2,700 | |
| | Sep-09 | <2. | | <2 | | 150 | | 62 | | 4.4 | | 3.8 | | 63 | | 380 | |
| | Apr-10 | <5 | | <5 | | 93 | | 48 | | NS | | NS | | NS | | NS | |
| | Oct-11 | <1 | | 0.89 | J | 43 | | 34 | | 7.2 | | 1.4 | | 35 | | 110 | |
| | Jan-12 | <25 | | 5 | J | 390 | | 130 | | 29 | | 59 | | 650 | | 6,100 | |
| | Apr-12 | <25 | | 5.5 | J | 350 | | 140 | | 22 | J | 54 | | 610 | | 7,200 | |
| | Jul-12 | <5 | | <5 | | 43 | | 40 | | 21 | | 15 | | 270 | | 2,000 | |
| | Oct-12 | <50 | | <50 | | 210 | | 63 | | 35 | J | 37 | J | 390 | | 4,200 | |
| | Jan-13 | 27 | J | 21 | J | 1,500 | | 220 | | 64 | | 140 | | 2,000 | | 2,400 | |
| | Apr-13 | 5 | J | 3.2 | J | 340 | | 94 | | 56 | | 40 | | 650 | | 8,300 | |
| | Jul-13 | <1.6 | | <1.9 | | 19 | | 12 | | 75 | | 18 | | 450 | | 5,500 | |
| | Oct-13 | <1.6 | | <1.9 | | 150 | | 53 | | 33 | | 10 | J | 160 | | 2,300 | |
| | Jan-14 | <1.6 | | <1.9 | | 68 | | <1.9 | | 110 | | 11 | | 200 | | 7,200 | |
| | Apr-14 | 44 | | <1.9 | | 16 | | 11 | | 110 | | <1.4 | | 64 | | 5,600 | |
| | Oct-14 | <0.75 | | 4.1 | J | 7.2 | | 7.3 | | 19 | | <1.1 | | 25 | | 400 | |
| | Apr-15 | <74 | | <48 | | <41 | | <50 | | 180 | | 63 | J | 760 | | 11,000 | |
| | Oct-15 | <3.7 | | <2.4 | | 2.4 | J | <2.5 | | 37 | | <2.4 | | 18 | | 350 | |
| | Apr-16 | <3.7 | | <2.4 | | 8.4 | | <2.5 | | 410 | | 43 | | <1.7 | | 17,000 | |
| MW-27 | Nov-01 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-02 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-03 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | 3 | | 2 | | 350 | | 5 | | <2 | | <2 | | <2 | | <5 | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | <5 | | <5 | | 40 | | 22 | | <5 | | <5 | | <5 | | <5 | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | <5 | | <5 | | <5 | | 92 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.86 | J | 1.6 | J | 8.3 | | 200 | | 0.63 | J | <2 | | 0.29 | J | 3.4 | J |
| | Jan-12 | 0.17 | J | 0.42 | J | 1.8 | | 19 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-12 | 0.26 | J | 0.4 | J | 1.7 | | 15 | | <1 | | <1 | | <1 | | <2 | |
| | Jul-12 | <1 | | 0.26 | J | 1.4 | | 21 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | 0.33 | J | 1.1 | | 16 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | 0.36 | J | 0.88 | J | 2.1 | | 20 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | 0.33 | J | 1 | J | 6.5 | | <0.18 | | <0.15 | | 0.35 | J | 3.9 | |
| | Jul-13 | <0.16 | | 0.8 | J | 2.6 | | 18 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | <0.16 | | <0.19 | | <0.21 | | 2.9 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | 2.1 | | 13 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | 1.9 | | 9.7 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 2.2 | | 12 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | 0.79 | J | 4.7 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | 0.62 | J | 10 | | 30 | | <.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.48 | | 2.4 | | 4 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-28 | Oct-02 | <5 | | <5 | | <5 | | <2 | | <5 | | <5 | | <5 | | <10 | |
| | Aug-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jul-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-04 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Aug-05 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Jun-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Oct-11 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-12 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jul-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-13 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Jan-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Apr-14 | NL | | NL | | NL | | NL | | NL | | NL | | NL | | NL | |
| | Oct-14 | 2.3 | | **0.44** | J | **14** | | **3.4** | | **0.82** | J | <0.33 | | **0.27** | J | **2.2** | |
| | Apr-15 | **5.8** | | **1.1** | | **33** | | **8.1** | | **1.6** | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | **32** | | **6.9** | | **220** | | **80** | | **10** | | <0.96 | | <0.66 | | **1.6** | J |
| | Apr-16 | 3.9 | | **1.4** | | **47** | | **22** | | **1.4** | | <0.48 | | <0.33 | | <.0.23 | |
| MW-29 | Oct-06 | **1,500** | | **340** | | **1,500** | | **24** | | **2** | | <2 | | **67** | | **51** | |
| | Dec-06 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-07 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Sep-07 | **2,300** | | **320** | | **1,700** | | **64** | | **3** | | <2 | | **63** | | **57** | |
| | May-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Dec-08 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-09 | **1,100** | | **320** | | **2,100** | | **74** | | <5 | | <5 | | **35** | | **98** | |
| | Sep-09 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Apr-10 | **500** | | **300** | | **3,200** | | **150** | | NS | | NS | | NS | | NS | |
| | Oct-11 | **180** | | **72** | | **2,300** | | **220** | | <20 | | <20 | | **1,300** | | **2,800** | |
| | Jan-12 | **200** | | **77** | | **2,500** | | **280** | | <20 | | <20 | | **1,100** | | **2,500** | |
| | Apr-12 | **100** | | **62** | | **1,900** | | **200** | | **6.3** | J | **7.6** | J | **950** | | **2,100** | |
| | Jul-12 | **110** | | **54** | | **1,900** | | **230** | | **6.8** | J | <20 | | **510** | | **1,000** | |
| | Oct-12 | **71** | | **44** | | **1,600** | | **110** | | <20 | | <20 | | **200** | | **370** | |
| | Jan-13 | **110** | | **41** | | **1,300** | | **140** | | **6** | J | **6.7** | J | **1,300** | | **2,900** | |
| | Apr-13 | **130** | | **76** | | **2,500** | | **490** | | **11** | | **4.1** | | **750** | | **1,500** | |
| | Jul-13 | **120** | | **69** | | **2,800** | | **460** | | **15** | | **5.4** | J | **800** | | **1,700** | |
| | Oct-13 | **140** | | **66** | | **6,100** | | **760** | | **20** | | **10** | J | **1,200** | | **2,500** | |
| | Jan-14 | **330** | | **110** | | **5,900** | | **790** | | **23** | | **20** | | **3,100** | | **6,600** | |
| | Apr-14 | **200** | | **150** | | **8,400** | | **880** | | **25** | | **21** | | **1,900** | | **4,000** | |
| | Oct-14 | **74** | | **55** | | **4,300** | | **660** | | <13 | | **21** | J | **1,800** | | **4,300** | |
| | Apr-15 | **160** | | **90** | | **5,900** | | **790** | | <22 | | **25** | J | **3,300** | | **7,300** | |
| | Oct-15 | **110** | | **130** | | **9,000** | | **1,000** | | <43 | | <48 | | **1,700** | | **4,700** | |
| | Apr-16 | **200** | | **230** | | **18,000** | | **1,500** | | <50 | | **52** | J | **2,500** | | **7,200** | |
| MW-30 | Oct-11 | 0.51 | J | **0.55** | J | **13** | | **2.9** | | **0.55** | J | <1 | | <1 | | <2 | |
| | Jan-12 | 0.18 | J | **0.46** | J | **13** | | **3.1** | | **0.47** | J | <1 | | <1 | | **0.58** | J |
| | Apr-12 | 0.19 | J | **0.43** | J | **9.4** | | **2.6** | | **0.44** | J | <1 | | <1 | | <2 | |
| | Jul-12 | 0.45 | J | **0.45** | J | **7.7** | | **2.4** | | **0.43** | J | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | **0.4** | J | **11** | | **3.6** | | **0.54** | J | <1 | | <1 | | <2 | |
| | Jan-13 | 0.2 | J | **0.38** | J | **9.4** | | **3.1** | | **0.54** | J | <1 | | <1 | | <2 | |
| | Apr-13 | 0.32 | J | **0.32** | J | **7.8** | | **4.5** | | **0.85** | J | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | **11** | | <0.19 | | **1.8** | | <0.14 | | <0.19 | | **2.6** | |
| | Oct-13 | <0.16 | | <0.19 | | **6.2** | | **2.5** | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | <0.16 | | <0.19 | | **5.6** | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | 0.4 | J | **0.4** | J | **5** | | <0.19 | | **0.48** | J | <0.14 | | **1** | J | **2.2** | |
| | Oct-14 | 0.39 | J | <0.13 | | **2.3** | | **1.2** | | **0.35** | J | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | **1.7** | | **0.88** | J | <0.43 | | <0.48 | | <0.33 | | **1.3** | |
| | Oct-15 | <0.74 | | <0.48 | | **1.7** | | **2** | | **0.43** | J | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.43 | | **0.81** | J | **0.6** | J | <0.43 | | <0.48 | | <0.33 | | **0.35** | J |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| MW-31 | Oct-11 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.24 | J |
| | Jan-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.21 | J |
| | Apr-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | 0.33 | J | 2.4 | |
| | Jul-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Oct-12 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Jan-13 | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <1 | | <2 | |
| | Apr-13 | <0.22 | | <0.20 | | <0.13 | | <0.30 | | <0.18 | | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | |
| | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.43 | J | <0.18 | | <0.25 | | <0.33 | | 0.33 | J | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.48 | | <0.41 | | <2.5 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-32 | Oct-11 | 7.2 | J | 11 | | 1,500 | | 35 | | <10 | | <10 | | 31 | | 35 | |
| | Jan-12 | 130 | | 61 | | 2,100 | | 53 | | <20 | | <20 | | 45 | | 56 | |
| | Apr-12 | 210 | | 100 | | 2,000 | | 54 | | <20 | | <20 | | 28 | | 22 | J |
| | Jul-12 | 200 | | 140 | | 1,100 | | 40 | | <10 | | <10 | | 17 | | 16 | J |
| | Oct-12 | 1,700 | | 470 | | 1,700 | | 110 | | <10 | | <10 | | 54 | | 26 | |
| | Jan-13 | 2,800 | | 530 | | 940 | | 93 | | <20 | | <20 | | 61 | | 27 | J |
| | Apr-13 | 2,800 | | 520 | | 980 | | 120 | | 0.94 | J | 2.8 | | 75 | | 42 | |
| | Jul-13 | 2,200 | | 570 | | 750 | | 96 | | <1.6 | | <1.4 | | 66 | | 40 | |
| | Oct-13 | 6,200 | | 1,300 | | 1,600 | | 220 | | <1.6 | | 7.2 | J | 160 | | 110 | |
| | Jan-14 | 6,500 | | 1,300 | | 1,600 | | 230 | | <1.6 | | <1.4 | | 180 | | 170 | |
| | Apr-14 | 6,000 | | 1,500 | | 2,200 | | 230 | | <1.6 | | <1.4 | | 200 | | 130 | |
| | Oct-14 | 1,900 | | 680 | | 1,100 | | 100 | | 8.3 | J | <6.6 | | 36 | | 29 | J |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.42 | | <0.33 | | <0.23 | |
| | Oct-15 | 1.3 | | 0.49 | J | 0.81 | J | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-33 | Oct-11 | 5,200 | | 3,200 | | 16,000 | | 840 | | <200 | | <200 | | 370 | | 2,200 | |
| | Jan-12 | 1,100 | | 190 | | 4,100 | | 370 | | <50 | | <50 | | 94 | | 450 | |
| | Apr-12 | 13 | | 11 | | 1,800 | | 390 | | 12 | | 9.3 | J | 46 | | 390 | |
| | Jul-12 | 40 | J | 35 | J | 3,000 | | 290 | | <50 | | <50 | | 34 | J | 88 | J |
| | Oct-12 | 37 | | 35 | | 2,300 | | 330 | | <20 | | <20 | | 28 | | 70 | |
| | Jan-13 | 5.9 | | 9.9 | | 390 | | 130 | | 1.7 | J | 2.3 | | 7.3 | | 15 | |
| | Apr-13 | 1.2 | | 4.7 | | 380 | | 130 | | 1.3 | | 1.5 | | 5.3 | | 12 | |
| | Jul-13 | 15 | | 5.1 | J | 500 | | 220 | | <1.6 | | <1.4 | | 8.9 | J | 24 | |
| | Oct-13 | 1.2 | | 4.8 | | 800 | | 480 | | 1.8 | | 2 | | 9 | | 26 | |
| | Jan-14 | <1.6 | | <1.9 | | 340 | | 300 | | <1.6 | | <1.4 | | 16 | | 40 | |
| | Apr-14 | <1.6 | | 8.4 | J | 360 | | 140 | | <1.6 | | <1.4 | | 7 | J | 25 | |
| | Oct-14 | 1.2 | J | 9.7 | | 390 | | 440 | | <1.3 | | 3.5 | J | 9.4 | | 37 | |
| | Apr-15 | <0.74 | | 2.8 | | 150 | | 100 | | 1.7 | | 1.7 | | 3.1 | | 11 | |
| | Oct-15 | 5 | | 48 | | 260 | | 170 | | <2.2 | | <2.4 | | 4.6 | J | 19 | |
| | Apr-16 | 1.0 | J | 3.2 | | 120 | | 57 | | 1 | | 1.3 | | 3.2 | | 10 | |
| MW-34 | Oct-11 | 2.2 | | 1.7 | | 44 | | 14 | | 1.6 | | <1 | | <1 | | <2 | |
| | Jan-12 | 13 | | 4.4 | | 80 | | 8.8 | | 3.6 | | <1 | | <1 | | <2 | |
| | Apr-12 | 4.3 | | 2.2 | | 64 | | 16 | | 2.3 | | <1 | | <1 | | <2 | |
| | Jul-12 | 2.3 | | 1.3 | | 35 | | 7.8 | | 1.3 | | <1 | | <1 | | <2 | |
| | Oct-12 | 4.9 | | 1.8 | | 45 | | 8.6 | | 1.8 | | <1 | | <1 | | <2 | |
| | Jan-13 | 8.6 | | 2.5 | | 43 | | 8.4 | | 1.9 | | <1 | | <1 | | <2 | |
| | Apr-13 | 2.7 | | 0.91 | J | 19 | | 5.7 | | 0.76 | J | <0.15 | | <0.097 | | <0.31 | |
| | Jul-13 | 3 | | 1 | J | 24 | | 0.19 | | 1.1 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-13 | 6.1 | | 3.1 | | 36 | | 9.8 | | 1.3 | | <0.14 | | <0.19 | | <0.20 | |
| | Jan-14 | 2.4 | | <0.19 | | 14 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | 0.51 | J | <0.19 | | 4.2 | | <0.19 | | 0.26 | J | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | 1.1 | | 0.23 | J | 5.1 | | 1.8 | | <0.25 | | <0.33 | | 0.17 | J | <0.20 | |
| | Apr-15 | 2.7 | | 0.52 | J | 9.9 | | 2.6 | | 0.47 | J | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | 4.2 | | 0.86 | J | 16 | | 4.4 | | 1.3 | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | 3.9 | | 0.72 | J | 18 | | 5.5 | | 2.3 | | <0.48 | | <0.33 | | <0.23 | |
| MW-35 | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.16 | J | <0.18 | | <0.25 | | <0.33 | | 0.11 | J | <.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-36 | Jan-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | 0.33 | J | <0.19 | | <0.16 | | <0.14 | | <0.19 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.6 | J | <0.18 | | <0.25 | | <0.33 | | <0.11 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | 0.59 | J | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | 0.81 | J | <0.50 | | <0.43. | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.48 | | 0.49 | J | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| MW-37 | Jan-14 | 30 | | 16 | | 860 | | 130 | | 14 | | <0.14 | | <0.19 | | 1.9 | |
| | Apr-14 | 22 | | 11 | | 690 | | <0.19 | | 16 | | <0.14 | | 1.8 | | 3.8 | |
| | Oct-14 | 36 | | 12 | | 370 | | 93 | | 10 | | 0.91 | J | 0.83 | J | 2.4 | J |
| | Apr-15 | 19 | | 8.5 | | 350 | | 65 | | 6.4 | | <0.96 | | <0.66 | | 0.77 | J |
| | Oct-15 | 92 | | 25 | | 900 | | 200 | | 22 | | <2.4 | | 1.8 | J | 4.1 | J |
| | Apr-16 | 30 | | 11 | | 400 | | 96 | | 13 | | <4.8 | | <3.3 | | <2.7 | |

# Table 3-4: Concentrations of CVOCs and VOCs in Groundwater
# VOPAK Terminal Savannah, Savannah, Georgia

| EPA Test Method: 8260B | | PCE | | TCE | | DCE | | VC | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | | µg/L | |
| Site-Specific Type 4 RRS Values (ug/L) | | 5 | | 38 | | 1022 | | 3 | | 9 | | 5241 | | 700 | | 10000 | |
| Well ID | Sample Date | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag | Result | Flag |
| PAN-MW-9 | Feb-91 | 14,000 | | 350 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Jul-91 | 9,200 | | 430 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Jun-96 | 3,040 | | < 2500 | | < 2,500 | | < 2500 | | NS | | NS | | NS | | NS | |
| | Sep-97 | 8,100 | | NR | | NR | | < 500 | | NS | | NS | | NS | | NS | |
| | Dec-98 | 7,400 | | NR | | NR | | < 250 | | < 250 | | < 250 | | 2,400 | | 5,200 | |
| | Dec-99 | 9,100 | | < 1000 | | < 400 | | < 400 | | NS | | NS | | NS | | NS | |
| | Oct-00 | 8,000 | | 360 | | 130 | | < 100 | | < 100 | | < 100 | | 3,900 | | 8,600 | |
| | Jun-01 | 9,800 | | 260 | J | 100 | J | < 200 | | < 500 | | < 500 | | 3,700 | | 8,500 | |
| | Aug-03 | 2,400 | | < 500 | | < 500 | | < 200 | | < 500 | | < 500 | | 1,100 | | 2,000 | |
| | Oct-03 | NS | | NS | | NS | | NS | | NS | | NS | | NS | | NS | |
| | Mar-04 | 6,900 | | 440 | | 300 | | 35 | | < 50 | | < 25 | | 3,100 | | 7,300 | |
| | Jul-04 | 3,200 | | 270 | | 170 | | 14 | | < 10 | | < 5 | | 8,400 | | 22,000 | |
| | Sep-04 | 6,000 | | 360 | | < 250 | | < 100 | | < 500 | | < 250 | | 2,200 | | 5,100 | |
| | May-05 | 1,100 | | 320 | | 220 | | < 100 | | < 100 | | < 100 | | 6,000 | | 16,000 | |
| | Aug-05 | 80 | | 9 | | 5 | | < 2 | | <2 | | < 5 | | 60 | | 150 | |
| | Jun-06 | 1,600 | | 480 | | 550 | | < 40 | | < 200 | | < 100 | | 730 | | 1,800 | |
| | Oct-06 | 1,500 | | 300 | | 990 | | < 40 | | < 200 | | < 100 | | 990 | | 2,600 | |
| | Dec-06 | 1,900 | | 640 | | 600 | | 23 | | < 2 | | < 2 | | 1,800 | | 4,900 | |
| | Mar-07 | 600 | | 370 | | 680 | | < 40 | | < 200 | | < 100 | | 4,500 | | 12,000 | |
| | Sep-07 | 1,500 | | 450 | | 880 | | < 40 | | < 40 | | < 40 | | 1,900 | | 5,400 | |
| | May-08 | 510 | | 190 | | 590 | | 18 | | < 2 | | 3 | | 8,800 | | 24,000 | |
| | Dec-08 | 540 | | 150 | | 500 | | 25 | | < 5 | | < 5 | | 3,900 | | 11,000 | |
| | Apr-09 | 460 | | 150 | | 780 | | < 40 | | < 100 | | < 100 | | 2,400 | | 6,300 | |
| | Sep-09 | 440 | | 150 | | 730 | | 49 | | < 10 | | < 10 | | 2,300 | | 6,100 | |
| | Apr-10 | 710 | | 140 | | 530 | | 93 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 350 | | 1,100 | | 780 | | 62 | | < 50 | | < 50 | | 1,900 | | 4,200 | |
| | Jan-12 | 690 | | 770 | | 820 | | 55 | | < 20 | | < 20 | | 2,000 | | 5,800 | |
| | Apr-12 | 280 | | 1,300 | | 1,100 | | 45 | | < 20 | | < 20 | | 1,900 | | 5,500 | |
| | Jul-12 | 37 | | 1,200 | | 1,300 | | 65 | | < 25 | | < 25 | | 890 | | 2,600 | |
| | Oct-12 | 210 | | 1,200 | | 1,800 | | 110 | | < 25 | | < 25 | | 1,800 | | 4,900 | |
| | Jan-13 | 540 | | 480 | | 1,200 | | 69 | | < 25 | | < 25 | | 1,100 | | 3,500 | |
| | Apr-13 | 240 | | 500 | | 1,400 | | 120 | | 2.8 | J | 3.4 | J | 1,000 | | 3,700 | |
| | Jul-13 | 55 | | 790 | | 1,200 | | 88 | | < 1.6 | | < 1.4 | | 760 | | 2,200 | |
| | Oct-13 | 29 | | 440 | | 2,500 | | 76 | | 1.1 | | 1.5 | | 1,000 | | 2,600 | |
| | Jan-14 | 17 | | 300 | | 2,100 | | 190 | | < 1.6 | | < 1.4 | | 1,100 | | 2,700 | |
| | Apr-14 | 22 | | 190 | | 2,000 | | 140 | | <1.6 | | <1.4 | | 960 | | 2,400 | |
| | Oct-14 | 17 | | 35 | | 1,900 | | 130 | | 4.4 | J | <3.3 | | 650 | | 1,800 | |
| | Apr-15 | <7.4 | | 4.9 | J | 2,000 | | 130 | | 5.2 | J | <4.8 | | 580 | | 1,400 | |
| | Oct-15 | <15 | | <9.6 | | 2,900 | | 160 | | 8.6 | J | <9.6 | | 560 | | 1,500 | |
| | Apr-16 | <15 | | 12 | J | 2,300 | | 250 | | <8.6 | | <9.6 | | 890 | | 2,300 | |
| PAN-MW-10 | Feb-91 | 37 | | < 5 | | < 5 | | < 30 | | NS | | NS | | NS | | NS | |
| | Sep-97 | 10 | | NR | | NR | | < 5 | | NS | | NS | | NS | | NS | |
| | Dec-98 | < 1 | | NR | | NR | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | |
| | Nov-99 | < 5 | | < 5 | | < 2 | | < 2 | | NS | | NS | | NS | | NS | |
| | Oct-00 | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jun-01 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 10 | |
| | Aug-03 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 10 | |
| | Sep-07 | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 2 | | < 5 | |
| | Apr-09 | < 5 | | < 5 | | < 5 | | < 2 | | < 5 | | < 5 | | < 5 | | < 5 | |
| | Apr-10 | < 5 | | < 5 | | < 5 | | < 2 | | NS | | NS | | NS | | NS | |
| | Oct-11 | 0.79 | J | 2.6 | | 1.3 | | < 1 | | < 1 | | 3.7 | | < 1 | | 9.9 | |
| | Jan-12 | < 1 | | 0.21 | J | 3.7 | | 0.2 | J | 0.28 | J | 1.2 | | < 1 | | 17 | |
| | Apr-12 | < 1 | | < 1 | | 0.71 | J | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jul-12 | < 1 | | < 1 | | 0.29 | J | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Oct-12 | < 1 | | < 1 | | 1.4 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Jan-13 | < 1 | | < 1 | | 1.2 | | < 1 | | < 1 | | < 1 | | < 1 | | < 2 | |
| | Apr-13 | < 0.22 | | < 0.20 | | 0.82 | J | < 0.30 | | < 0.18 | | <0.097 | | < 0.15 | | < 0.31 | |
| | Jul-13 | < 0.16 | | < 0.19 | | < 0.21 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Oct-13 | < 0.16 | | < 0.19 | | 0.76 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Jan-14 | < 0.16 | | < 0.19 | | 1.3 | | < 0.19 | | < 0.16 | | <0.19 | | < 0.14 | | < 0.20 | |
| | Apr-14 | <0.16 | | <0.19 | | <0.21 | | <0.19 | | <0.16 | | <0.19 | | <0.14 | | <0.20 | |
| | Oct-14 | <0.15 | | <0.13 | | 0.34 | J | <0.18 | | <0.25 | | <0.11 | | <0.33 | | <0.20 | |
| | Apr-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Oct-15 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |
| | Apr-16 | <0.74 | | <0.48 | | <0.41 | | <0.50 | | <0.43 | | <0.48 | | <0.33 | | <0.23 | |

**Notes:**
**0.79** = Concentration above Minimum Detection Limit (MDL)
**39** = Concentration above RRS
NR = Not Reported by Laboratory
NS = Not Sampled
NL = Not Located
NU = Not Useable due to siltation
NA = Not Avaliable
All data prior to October 2011 tabulated by ERM

# Table 3-5: Historical Groundwater Elevation Table
# VOPAK Terminal Savannah, Savannah, Georgia

| Well ID # (Well Diameter, in.) | Groundwater Potentiometric Surface Elevation (ft.) | | | | | | | | | | | | | | | MW Min.* | MW Max.* | MW Range* | MW Avg.* | MW Var.* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct-11 | Jan-12 | Apr-12 | Jul-12 | Oct-12 | Jan-13 | Apr-13 | Jul-13 | Oct-13 | Jan-14 | Apr-14 | Oct-14 | Apr-15 | Oct-15 | Apr-16 | | | | | |
| *IW-1R (1)* | NG | NG | NG | NG | NG | NG | NG | NG | NG | NG | 7.40 | 7.30 | 7.11 | 7.74 | 7.51 | 7.11 | 7.74 | 0.63 | 7.41 | 0.06 |
| *IW-18 (1)* | 7.15 | 6.36 | 5.52 | 6.39 | 6.30 | 6.22 | 7.28 | 7.44 | 6.77 | 6.73 | 7.20 | 7.02 | 6.89 | 7.30 | 6.92 | 5.52 | 7.44 | 1.92 | 6.77 | 0.27 |
| *LAW-PZ-8R (1)* | 7.75 | 7.08 | 7.36 | 7.65 | 6.79 | 6.78 | 7.83 | 8.22 | 7.10 | 7.63 | 7.15 | 6.17 | 7.69 | 7.57 | 6.72 | 6.17 | 8.22 | 2.05 | 7.30 | 0.29 |
| *MW-14 (2)*[2] | NL | NL | NL | NL | NL | NL | NL | NL | 3.65 | 2.14 | 2.27 | 2.80 | 2.38 | 3.25 | 2.26 | 2.14 | 3.65 | 1.51 | 2.68 | 0.33 |
| *MW-16 (1)* | 5.67 | 4.36 | 4.31 | 5.24 | 4.34 | 4.04 | 4.72 | 4.91 | 5.15 | 4.40 | 5.09 | 4.70 | 4.98 | 5.30 | 5.28 | 4.04 | 5.67 | 1.63 | 4.83 | 0.22 |
| *MW-17R (1)* | 3.93 | 2.49 | 3.59 | 4.34 | 4.86 | 4.79 | 5.15 | 5.32 | 5.21 | 5.32 | 5.95 | 4.58 | 4.96 | 5.10 | 5.12 | 2.49 | 5.95 | 3.46 | 4.71 | 0.72 |
| *MW-18R (1)* | 7.65 | 6.81 | 7.32 | 7.58 | 6.92 | 6.76 | 7.80 | 8.03 | 7.15 | 7.55 | 8.02 | 7.58 | 7.94 | 8.07 | 7.87 | 6.76 | 8.07 | 1.31 | 7.54 | 0.20 |
| *MW-19 (1)* | 8.11 | 7.29 | 7.91 | 7.98 | 7.78 | 7.17 | 7.97 | 8.12 | 7.53 | 7.86 | 8.55 | 7.95 | 8.22 | 8.02 | 8.41 | 7.17 | 8.55 | 1.38 | 7.92 | 0.14 |
| *MW-23 (1)* | 6.39 | 5.65 | 6.51 | 6.25 | 6.18 | 5.71 | 6.34 | 5.63 | 6.19 | 6.19 | 7.43 | 5.63 | 6.97 | 6.45 | 7.09 | 5.63 | 7.43 | 1.80 | 6.31 | 0.30 |
| *MW-24R (1)* | 5.86 | 5.30 | 5.80 | 5.60 | 5.39 | 5.22 | 5.92 | 5.00 | 5.49 | 5.91 | 6.44 | 6.16 | 6.36 | 6.72 | 6.38 | 5.00 | 6.72 | 1.72 | 5.84 | 0.26 |
| *MW-25 (1)* | 7.91 | 7.14 | 7.81 | 7.93 | 7.64 | 7.12 | 8.05 | 8.20 | 7.41 | 7.84 | 8.43 | 7.96 | 8.25 | 8.02 | 8.41 | 7.12 | 8.43 | 1.31 | 7.87 | 0.16 |
| *MW-26R (1)* | 7.39 | 6.48 | 7.17 | 7.21 | 6.58 | 6.41 | 7.44 | 8.09 | 7.88 | 7.48 | 8.00 | 7.67 | 7.47 | 7.87 | 7.54 | 6.41 | 8.09 | 1.68 | 7.38 | 0.28 |
| *MW-27 (1)* | 5.06 | 4.10 | 4.89 | 4.77 | 4.42 | 4.30 | 4.66 | 4.47 | 4.58 | 4.61 | 5.66 | 5.45 | 5.30 | 5.17 | 4.81 | 4.10 | 5.66 | 1.56 | 4.82 | 0.19 |
| *MW-28 (2)* | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 7.46 | 7.24 | 7.57 | 7.66 | 7.24 | 7.66 | 0.42 | 7.48 | 0.03 |
| *MW-29 (0.75)* | 5.71 | 5.01 | 5.38 | 5.27 | 4.91 | 4.67 | 5.48 | 5.12 | 5.21 | 5.43 | 5.83 | 5.91 | 5.69 | 6.15 | 5.91 | 4.67 | 6.15 | 1.48 | 5.45 | 0.18 |
| *MW-30 (2)* | 6.28 | 5.60 | 5.99 | 6.09 | 5.75 | 5.29 | 6.18 | 6.27 | 6.76 | 6.23 | 6.63 | 6.28 | 6.18 | 6.45 | 6.33 | 5.29 | 6.76 | 1.47 | 6.15 | 0.14 |
| *MW-31 (2)* | 4.41 | 3.94 | 4.17 | 4.48 | 4.26 | 3.92 | 4.42 | 4.32 | NG | 4.47 | 5.05 | 5.11 | 5.19 | 5.08 | 4.97 | 3.92 | 5.19 | 1.27 | 4.56 | 0.19 |
| *MW-32 (2)* | 5.23 | 4.53 | 5.24 | 5.49 | 5.00 | 4.75 | 5.32 | 5.15 | 5.04 | 5.23 | 5.73 | 5.60 | 6.21 | 5.76 | 5.80 | 4.53 | 6.21 | 1.68 | 5.34 | 0.19 |
| *MW-33 (2)* | 6.54 | 5.67 | 6.17 | 5.90 | 5.05 | 5.07 | 6.60 | 6.41 | 7.07 | 6.24 | 7.02 | 6.48 | 6.58 | 6.87 | 6.63 | 5.05 | 7.07 | 2.02 | 6.29 | 0.39 |
| *MW-34 (2)* | 7.40 | 6.81 | 7.00 | 7.29 | 6.53 | 6.53 | 7.52 | 7.73 | 6.86 | 7.41 | 7.94 | 7.69 | 7.53 | 7.39 | 7.41 | 6.53 | 7.94 | 1.41 | 7.27 | 0.18 |
| *MW-35 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 4.77 | 4.73 | 4.91 | 4.93 | 4.87 | 4.85 | 4.73 | 4.93 | 0.20 | 4.84 | 0.01 |
| *MW-36 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 1.89 | 3.44 | 3.71 | 3.94 | 4.49 | 4.02 | 1.89 | 4.49 | 2.60 | 3.58 | 0.81 |
| *MW-37 (2)* | NI | NI | NI | NI | NI | NI | NI | NI | NI | 7.42 | 7.88 | 7.77 | 7.60 | 7.57 | 7.47 | 7.42 | 7.88 | 0.46 | 7.62 | 0.03 |
| *PAN-MW-9 (2)* | 6.24 | 5.39 | 5.74 | 5.98 | 5.54 | 5.32 | 6.07 | 5.86 | 5.93 | 6.23 | 6.57 | 6.41 | 5.57 | 6.50 | 6.29 | 5.32 | 6.57 | 1.25 | 5.98 | 0.16 |
| *PAN-MW-10 (2)* | 3.45 | 2.47 | 2.94 | 3.51 | 3.19 | 3.35 | 3.43 | 3.82 | 3.53 | 3.50 | 4.13 | 4.37 | 6.10 | 5.68 | 5.06 | 2.47 | 6.10 | 3.63 | 3.90 | 1.02 |
| **Event Min.*[3]** | 3.45 | 2.47 | 2.94 | 3.51 | 3.19 | 3.35 | 3.43 | 3.82 | 3.53 | 1.89 | 3.44 | 3.71 | 3.94 | 4.49 | 4.02 | **Global Min.*[4]** | | 1.89 | | |
| **Event Max.*[3]** | 8.11 | 7.29 | 7.91 | 7.98 | 7.78 | 7.17 | 8.05 | 8.22 | 7.88 | 7.86 | 8.55 | 7.96 | 8.25 | 8.07 | 8.41 | **Global Max.*[4]** | | 8.55 | | |
| **Event Range*[3]** | 4.66 | 4.82 | 4.97 | 4.47 | 4.59 | 3.82 | 4.62 | 4.40 | 4.35 | 5.97 | 5.11 | 4.25 | 4.31 | 3.58 | 4.39 | **Global Range*[4]** | | 6.66 | | |
| **Event Avg.*[3]** | 6.22 | 5.39 | 5.83 | 6.05 | 5.65 | 5.44 | 6.22 | 6.22 | 6.16 | 5.92 | 6.53 | 6.24 | 6.45 | 6.57 | 6.44 | **Global Avg.*[4]** | | 6.09 | | |
| **Event Var.*[3]** | 1.88 | 2.14 | 2.03 | 1.69 | 1.50 | 1.32 | 1.90 | 2.30 | 1.43 | 2.46 | 1.98 | 1.61 | 1.42 | 1.33 | 1.54 | **Global Var.*[4]** | | 2.03 | | |

**Notes:**

NI - Not Installed

NS - Not Surveyed, TOC elevation information is not available for well

NL - Not Located

NA - Not Applicable

NG - Not Gauged

*** = Event Min, Max, Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for each respective groundwater gauging event.

*[2] = MW-14 is considered a deep well at the Site and is not considered for the shallow potentiometric surface at the Site.

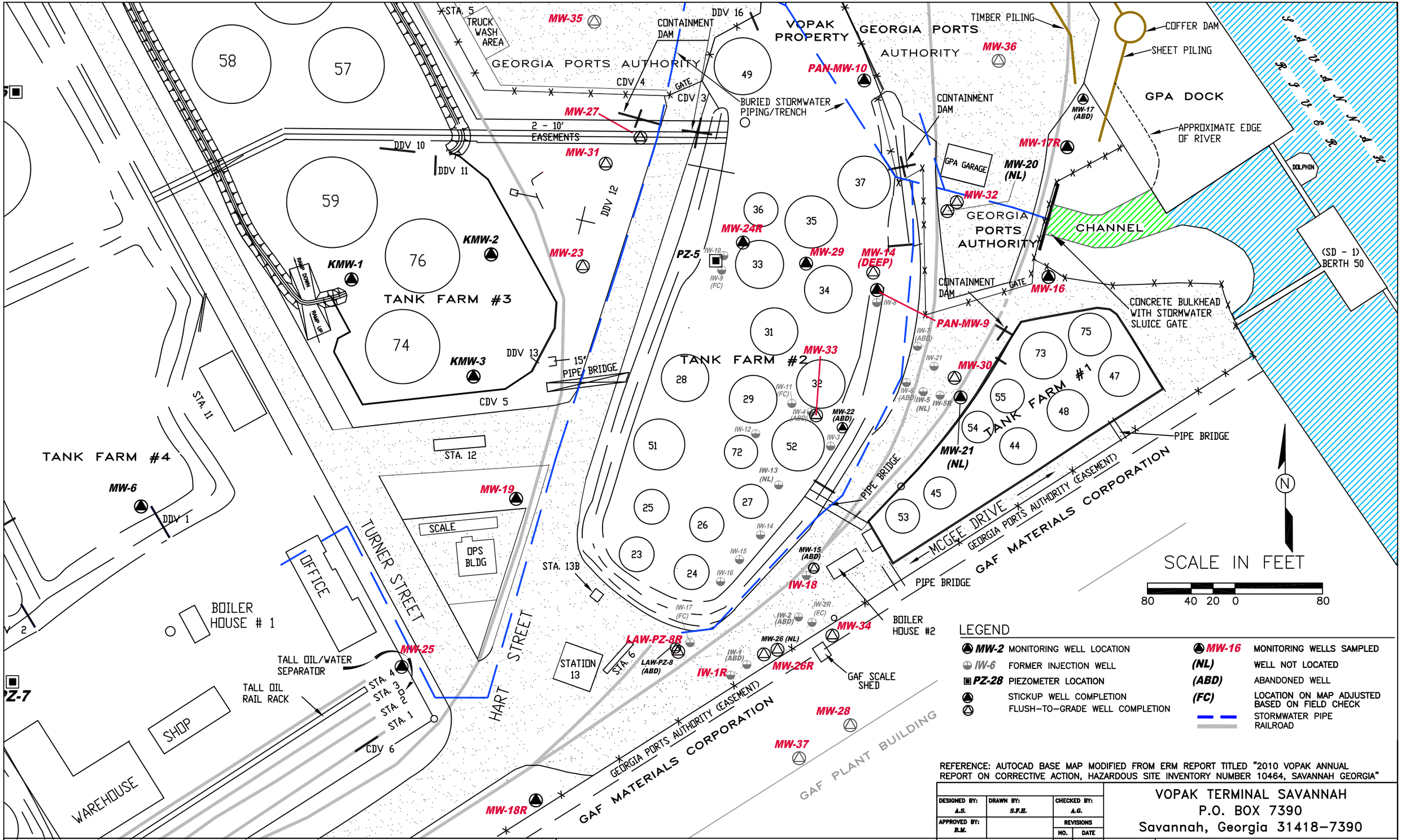
***[3] = MW Min., Max., Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for each monitoring well throughout all gauging events from October 2011 to October 2015 where available.

***[4]= Global Min., Max., Range, Avg., and Var.** - are the minimum, maximum, range, average, and total variance for all monitoring wells throughout all events from October 2011 to October 2015

PCE REMEDIATION, VOPAK TERMINAL SAVANNAH, SAVANNAH GEORGIA

# APRIL 2016 GROUNDWATER MONITORING REPORT

# FIGURES




## LEGEND

| | | | |
|---|---|---|---|
| MW-2 | MONITORING WELL LOCATION | MW-16 | MONITORING WELLS SAMPLED |
| IW-6 | FORMER INJECTION WELL | (NL) | WELL NOT LOCATED |
| PZ-28 | PIEZOMETER LOCATION | (ABD) | ABANDONED WELL |
| | STICKUP WELL COMPLETION | (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| | FLUSH-TO-GRADE WELL COMPLETION | | STORMWATER PIPE |
| | | | RAILROAD |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA"

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 AND IW-1R WERE PLOTTED BASED ON THE APRIL 2016 SURVEY BY MOCK SURVEYING.

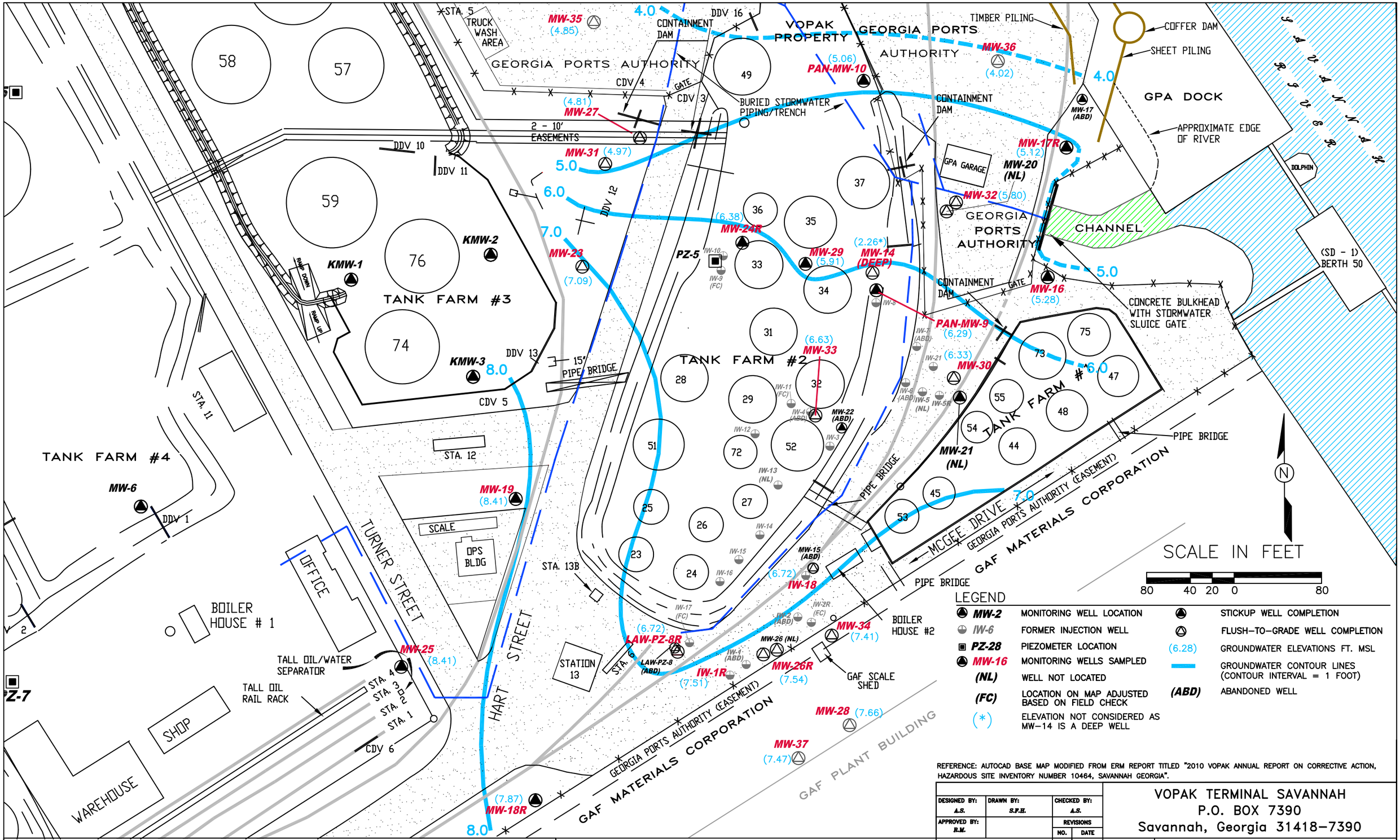
# FIGURE 1-1: SITE MAP

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.P.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/17/2016 | 390049 - APR 2016 GW REPORT | |




NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 AND IW-1R WERE PLOTTED BASED ON APRIL 2016 SURVEY BY MOCK SURVEYING.
GROUNDWATER POTENTIOMETRIC SUREFACE ELEVATIONS ARE IN NGVD29 DATUM

# FIGURE 3-1:
# GROUNDWATER POTENTIOMETRIC SURFACE MAP
# APRIL 4-7, 2016

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

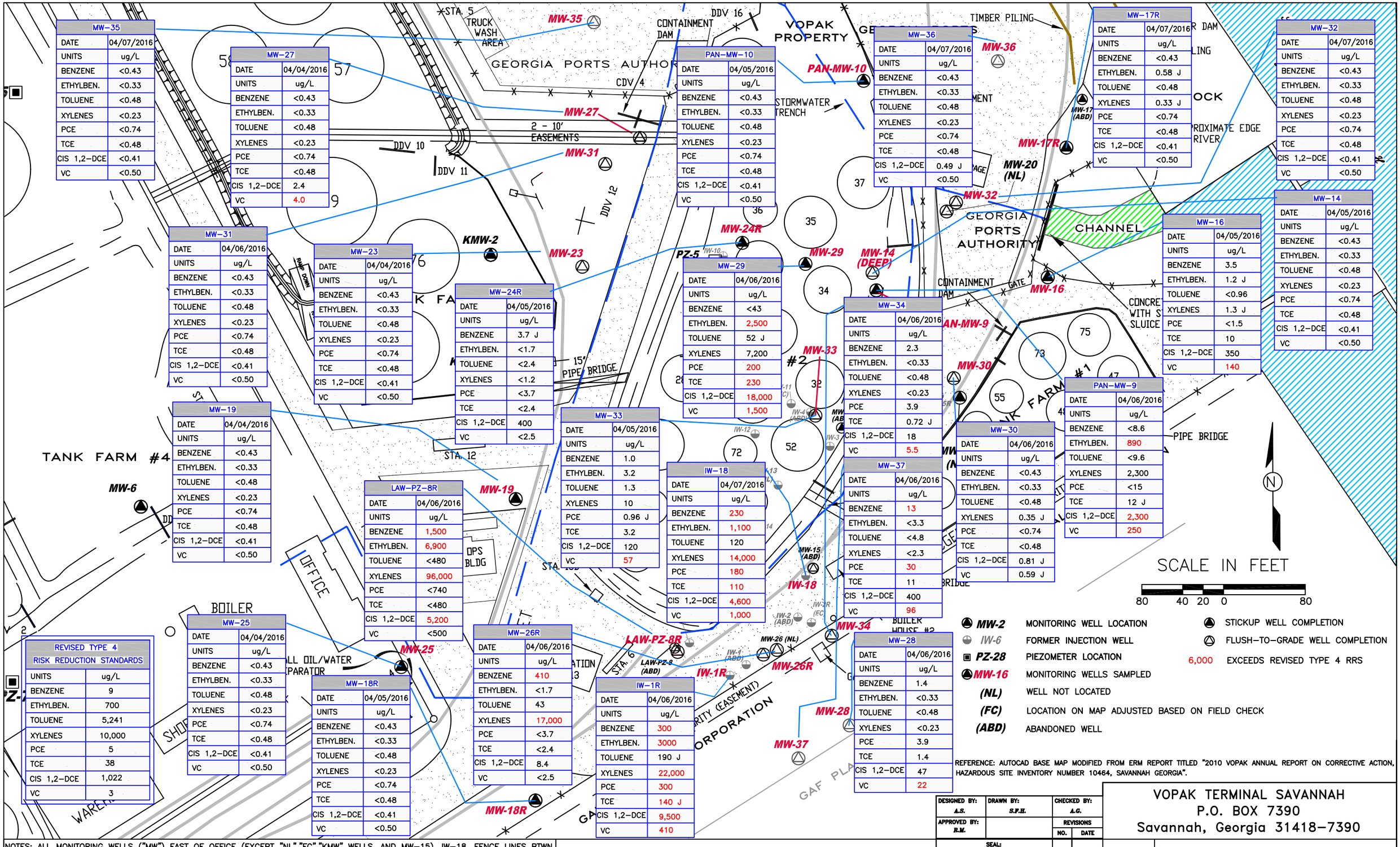
| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | S.P.H. | A.S. |
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 02/15/2016 | 390049 - APR 2016 GW REPORT | |




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 AND IW-1R WERE PLOTTED BASED ON APRIL 2016 SURVEY BY MOCK SURVEYING.

# FIGURE 3-2:
# GROUNDWATER ANALYTICAL RESULTS
# APRIL 4-7, 2016

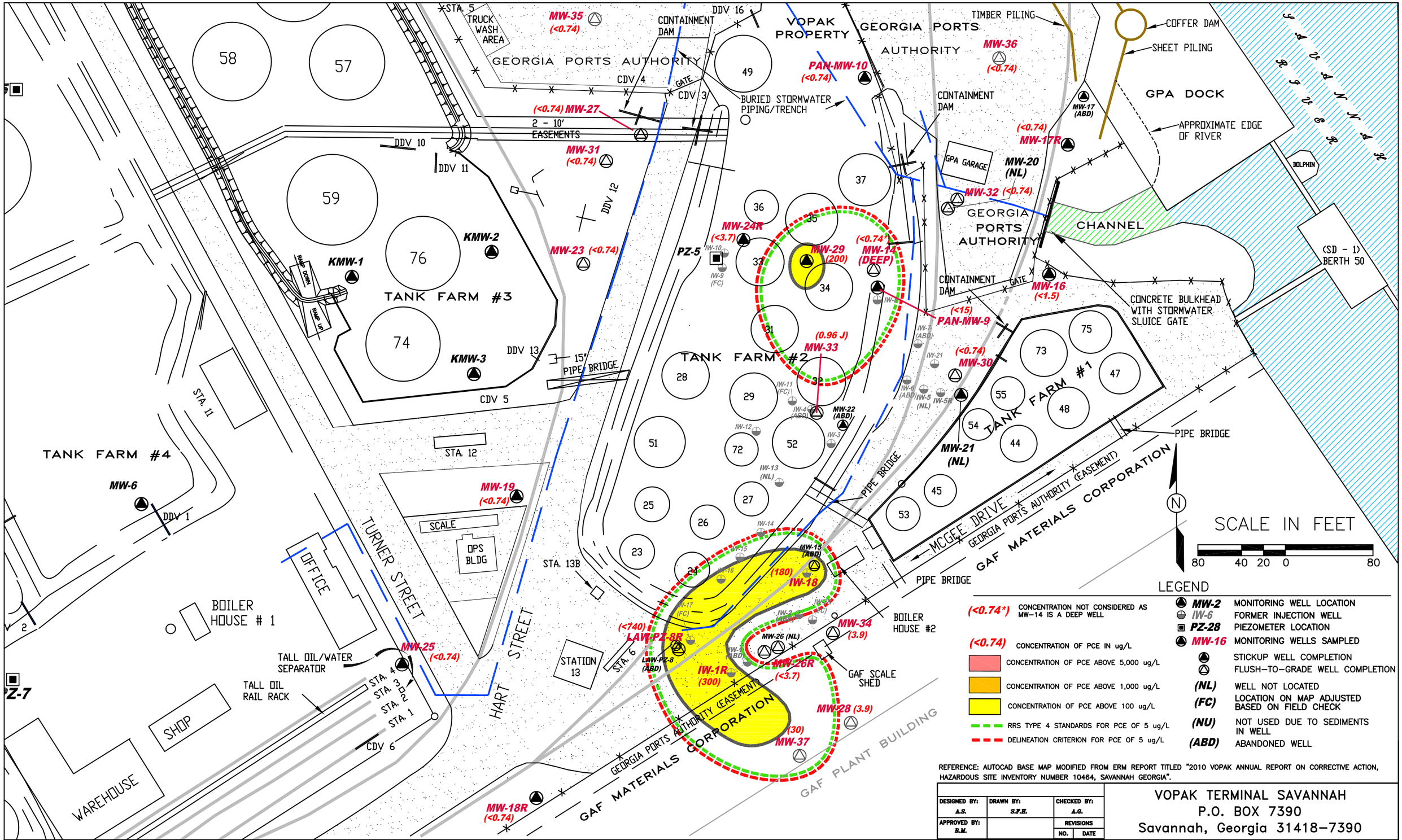
| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | S.F.H. | A.G. |
| APPROVED BY: | | REVISIONS NO. / DATE |
| R.M. | | |

SEAL:

VOPAK TERMINAL SAVANNAH
P.O. BOX 7390
Savannah, Georgia 31418-7390

ENVIRONMENTAL INTERNATIONAL CORP.
161 KIMBALL BRIDGE ROAD
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/22/2016 | 390049 - APR 2016 GW REPORT | |




## LEGEND

| | |
|---|---|
| (<0.74*) CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | MW-2 MONITORING WELL LOCATION |
| | IW-6 FORMER INJECTION WELL |
| | PZ-28 PIEZOMETER LOCATION |
| (<0.74) CONCENTRATION OF PCE IN ug/L | MW-16 MONITORING WELLS SAMPLED |
| CONCENTRATION OF PCE ABOVE 5,000 ug/L | STICKUP WELL COMPLETION |
| CONCENTRATION OF PCE ABOVE 1,000 ug/L | FLUSH-TO-GRADE WELL COMPLETION |
| CONCENTRATION OF PCE ABOVE 100 ug/L | (NL) WELL NOT LOCATED |
| RRS TYPE 4 STANDARDS FOR PCE OF 5 ug/L | (FC) LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| DELINEATION CRITERION FOR PCE OF 5 ug/L | (NU) NOT USED DUE TO SEDIMENTS IN WELL |
| | (ABD) ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 AND IW-1R WERE PLOTTED BASED ON APRIL 2016 SURVEY BY MOCK SURVEYING.

# FIGURE 3-3:
# PCE ISOCONCENTRATION MAP
# APRIL 4-7, 2016

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.P.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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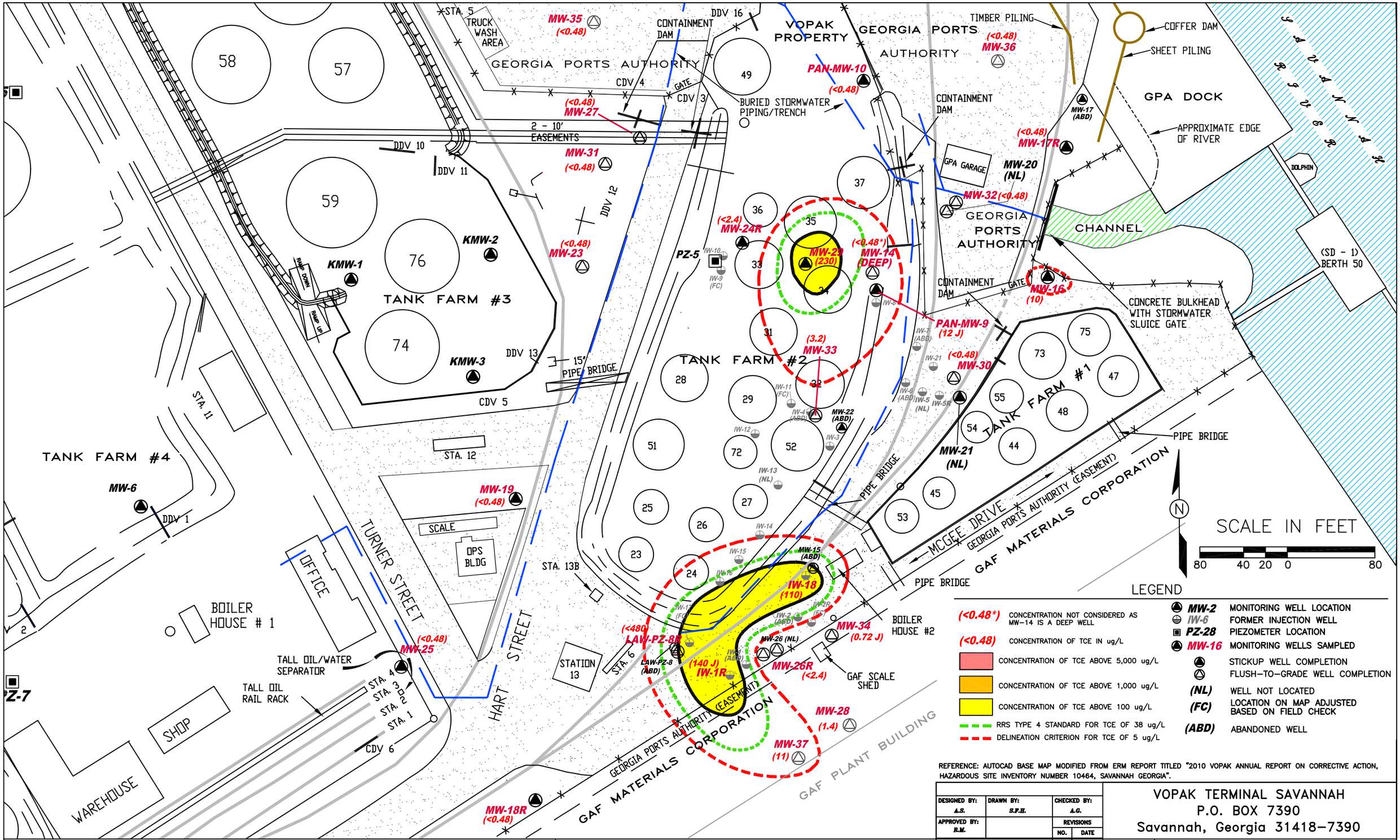
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/20/2016 | 390049 - APR 2016 GW REPORT | |




LEGEND

| | |
|---|---|
| (<0.48*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (<0.48) | CONCENTRATION OF TCE IN ug/L |
| | CONCENTRATION OF TCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF TCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF TCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR TCE OF 38 ug/L |
| | DELINEATION CRITERION FOR TCE OF 5 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 AND IW-1R WERE PLOTTED BASED ON APRIL 2016 SURVEY BY MOCK SURVEYING.

# FIGURE 3-4:
# TCE ISOCONCENTRATION MAP
# APRIL 4-7, 2016

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |

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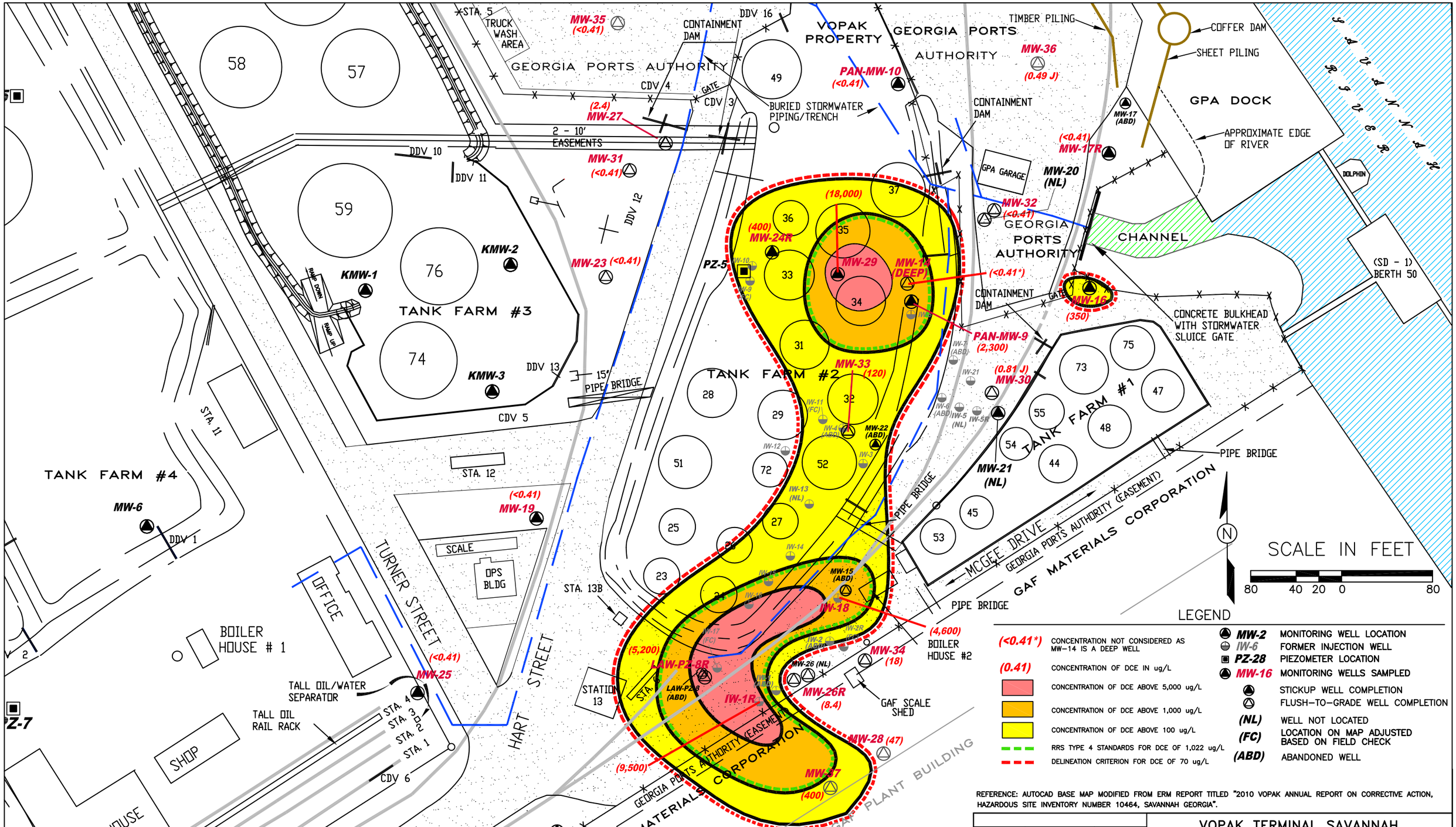
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/20/16 | 390049 - APR 2016 GW REPORT | |




LEGEND

| | |
|---|---|
| (<0.41*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (0.41) | CONCENTRATION OF DCE IN ug/L |
| | CONCENTRATION OF DCE ABOVE 5,000 ug/L |
| | CONCENTRATION OF DCE ABOVE 1,000 ug/L |
| | CONCENTRATION OF DCE ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARDS FOR DCE OF 1,022 ug/L |
| | DELINEATION CRITERION FOR DCE OF 70 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 AND IW-1R WERE PLOTTED BASED ON APRIL 2016 SURVEY BY MOCK SURVEYING.

# FIGURE 3-5:
# CIS-1, 2 DCE ISOCONCENTRATION MAP
# APRIL 4-7, 2016

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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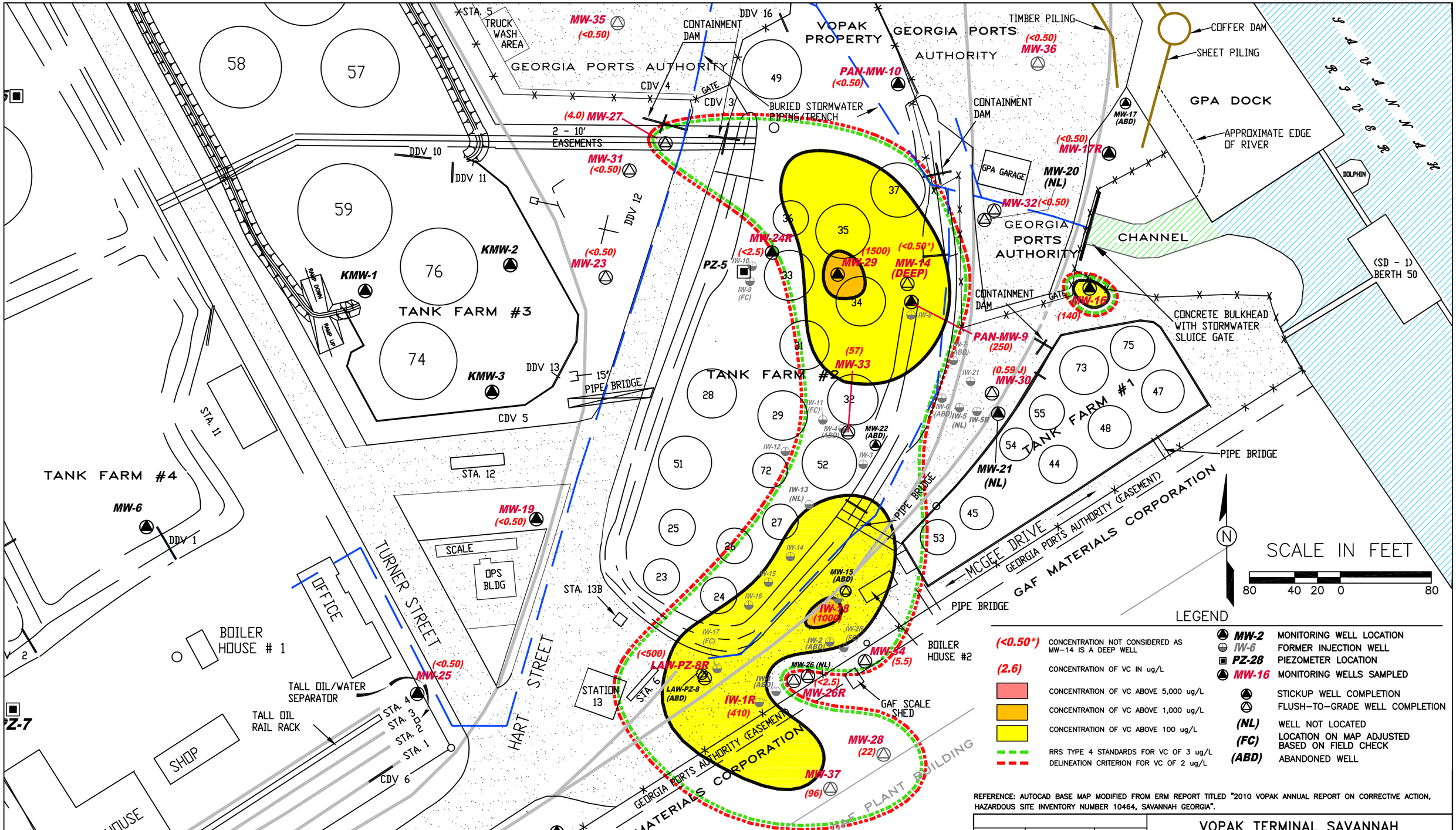
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/21/2016 | 390049 - APRIL 2016 GW REPORT | |




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 AND IW-1R WERE PLOTTED BASED ON APRIL 2016 SURVEY BY MOCK SURVEYING.

# FIGURE 3-6:
# VINYL CHLORIDE ISOCONCENTRATION MAP
# APRIL 4-7, 2016

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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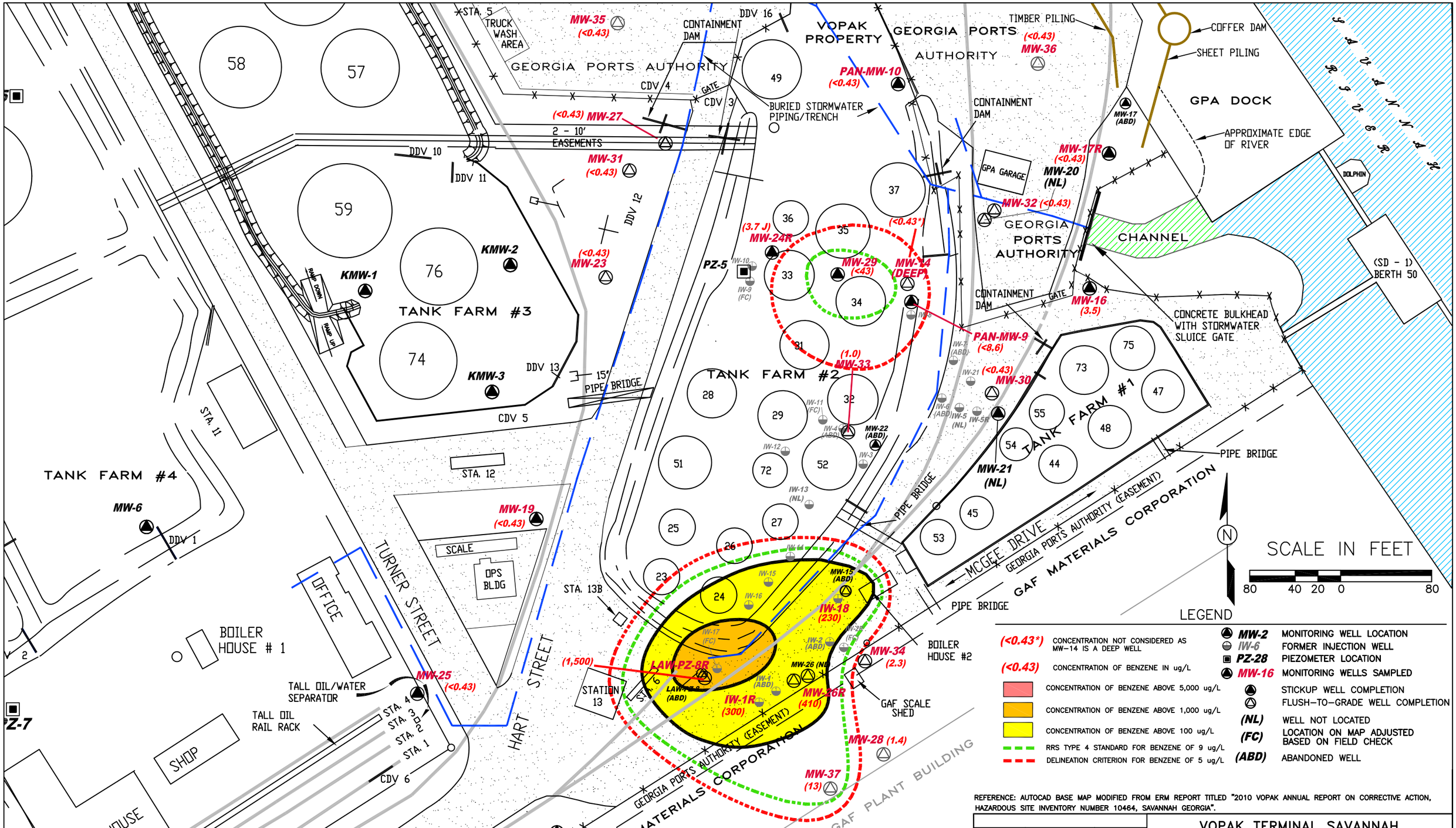
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/21/2016 | 390049 - APR 2016 GW REPORT | |




LEGEND

| | | | |
|---|---|---|---|
| (<0.43*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL | MW-2 | MONITORING WELL LOCATION |
| (<0.43) | CONCENTRATION OF BENZENE IN ug/L | IW-6 | FORMER INJECTION WELL |
| | CONCENTRATION OF BENZENE ABOVE 5,000 ug/L | PZ-28 | PIEZOMETER LOCATION |
| | CONCENTRATION OF BENZENE ABOVE 1,000 ug/L | MW-16 | MONITORING WELLS SAMPLED |
| | CONCENTRATION OF BENZENE ABOVE 100 ug/L | | STICKUP WELL COMPLETION |
| | RRS TYPE 4 STANDARD FOR BENZENE OF 9 ug/L | | FLUSH-TO-GRADE WELL COMPLETION |
| | DELINEATION CRITERION FOR BENZENE OF 5 ug/L | (NL) | WELL NOT LOCATED |
| | | (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| | | (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 AND IW-1R WERE PLOTTED BASED ON APRIL 2016 SURVEY BY MOCK SURVEYING.

# FIGURE 3-7:
# BENZENE ISOCONCENTRATION MAP
# APRIL 4-7, 2016

| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | S.F.H. | A.G. |
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

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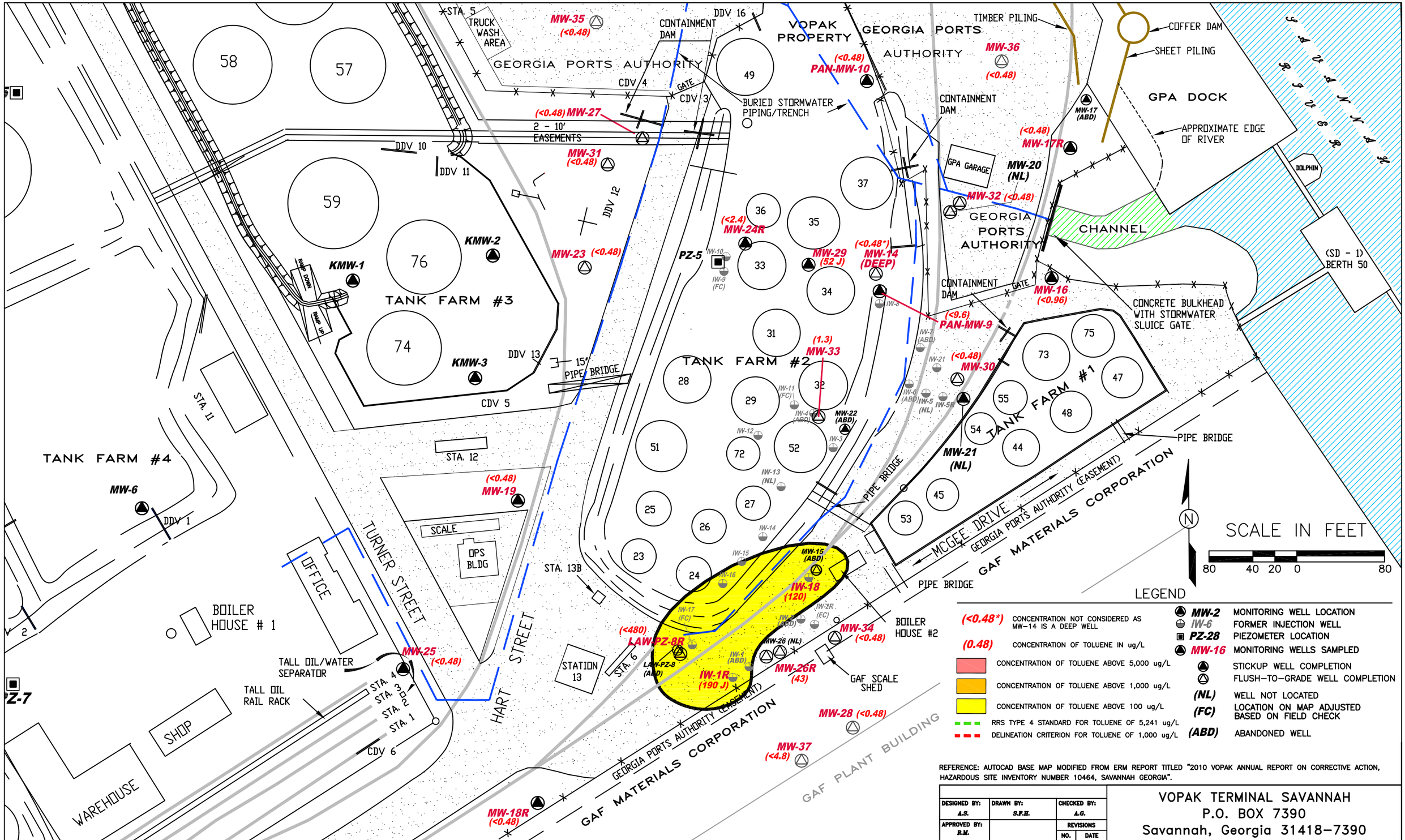
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/21/2016 | 390049 - APR 2016 GW REPORT | |




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 AND IW-1R WERE PLOTTED BASED ON APRIL 2016 SURVEY BY MOCK SURVEYING.

# FIGURE 3-8:
# TOLUENE ISOCONCENTRATION MAP
# APRIL 4-7, 2016

| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | S.F.H. | A.G. |
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

SEAL:

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Savannah, Georgia 31418-7390

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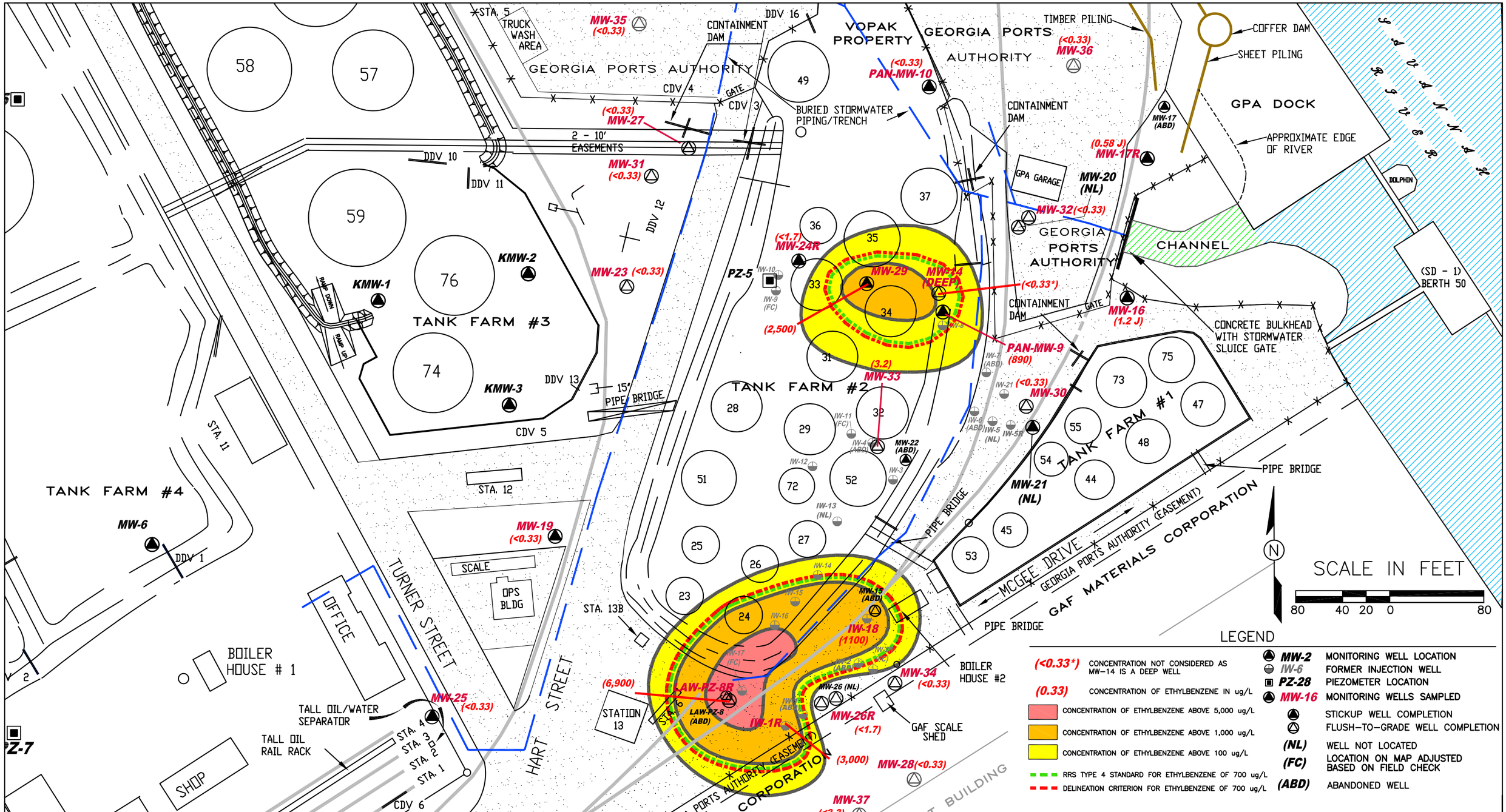
ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/21/2016 | 390049 - APR 2016 GW REPORT | |




REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 AND IW-1R WERE PLOTTED BASED ON APRIL 2016 SURVEY BY MOCK SURVEYING.

# FIGURE 3-9:
# ETHYLBENZENE ISOCONCENTTRAION MAP
# APRIL 4-7, 2016

| DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|
| A.S. | S.F.H. | A.G. |
| APPROVED BY: R.M. | | REVISIONS NO. / DATE |

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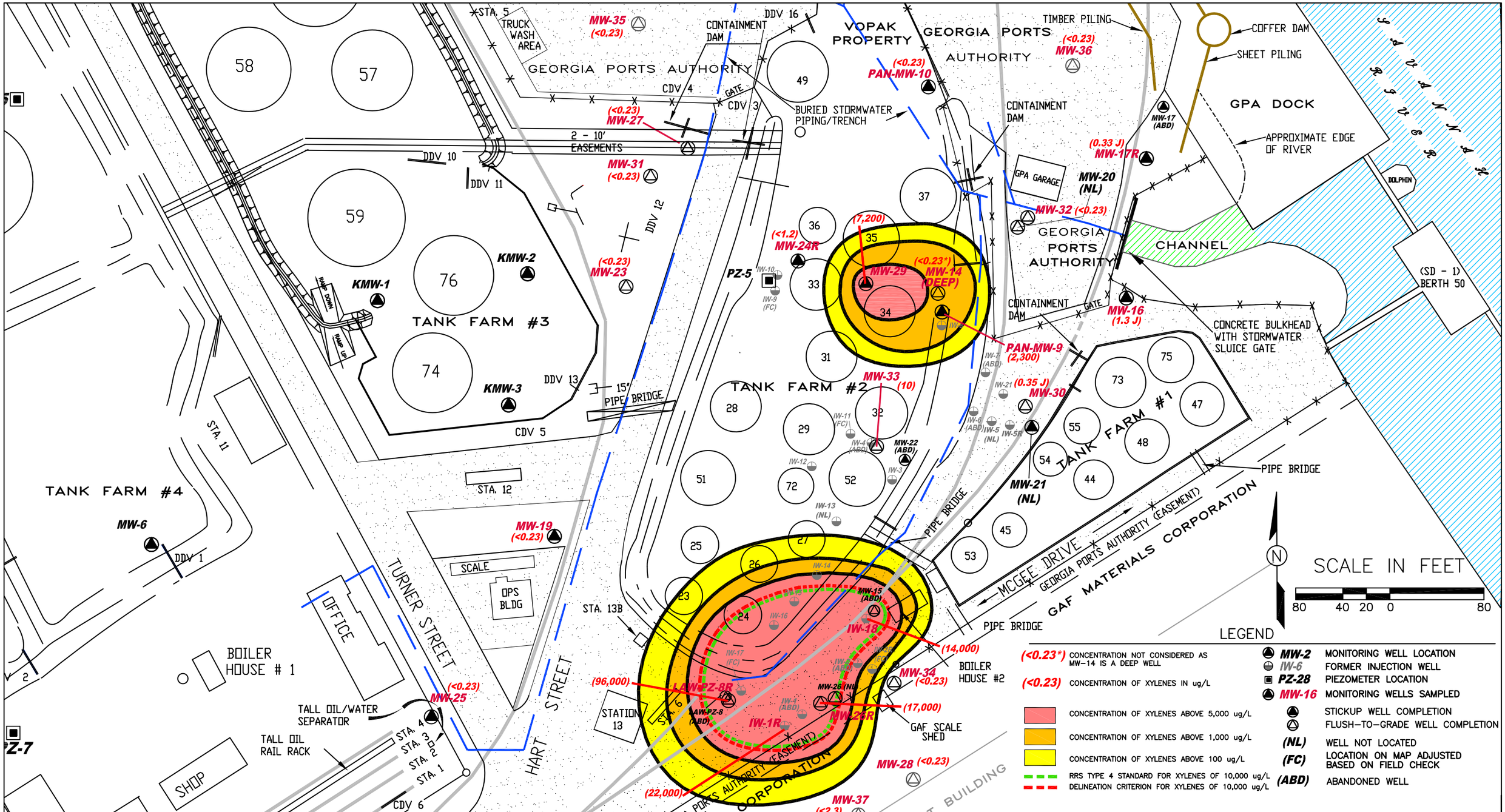
| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/21/2016 | 390049 - APR 2016 GW REPORT | |




LEGEND

| | |
|---|---|
| (<0.23*) | CONCENTRATION NOT CONSIDERED AS MW-14 IS A DEEP WELL |
| (<0.23) | CONCENTRATION OF XYLENES IN ug/L |
| | CONCENTRATION OF XYLENES ABOVE 5,000 ug/L |
| | CONCENTRATION OF XYLENES ABOVE 1,000 ug/L |
| | CONCENTRATION OF XYLENES ABOVE 100 ug/L |
| | RRS TYPE 4 STANDARD FOR XYLENES OF 10,000 ug/L |
| | DELINEATION CRITERION FOR XYLENES OF 10,000 ug/L |
| MW-2 | MONITORING WELL LOCATION |
| IW-6 | FORMER INJECTION WELL |
| PZ-28 | PIEZOMETER LOCATION |
| MW-16 | MONITORING WELLS SAMPLED |
| | STICKUP WELL COMPLETION |
| | FLUSH-TO-GRADE WELL COMPLETION |
| (NL) | WELL NOT LOCATED |
| (FC) | LOCATION ON MAP ADJUSTED BASED ON FIELD CHECK |
| (ABD) | ABANDONED WELL |

REFERENCE: AUTOCAD BASE MAP MODIFIED FROM ERM REPORT TITLED "2010 VOPAK ANNUAL REPORT ON CORRECTIVE ACTION, HAZARDOUS SITE INVENTORY NUMBER 10464, SAVANNAH GEORGIA".

NOTES: ALL MONITORING WELLS ("MW") EAST OF OFFICE (EXCEPT "NL","FC","KMW" WELLS, AND MW-15), IW-18, FENCE LINES BTWN VOPAK AND GPA, GPA EASEMENT AND TANKS 32, 34, 37, AND 52 WERE DRAWN BASED ON SURVEY CONDUCTED BY EMC ENGINEERING SERVICES, INC. (EMC) ON 6/30/2011. MONITORING WELLS, MW-14, MW-26R, MW-30, MW-33, AND INJECTION WELLS ("IW"), IW2-R, IW5-R, IW-6, IW-7, IW-8, AND IW-21 WERE ADJUSTED BASED ON SURVEY CONDUCTED BY EMC ON 1/24/2013. PILINGS, STORMWATER PIPES, RAIL ROAD AND CHANNEL FEATURES WERE DRAWN BASED ON AS-BUILT DRAWINGS PROVIDED BY THE GEORGIA PORTS AUTHORITY. WELLS MW-35, MW-36, AND MW-37 WERE PLOTTED BASED ON SURVEY CONDUCTED BY EMC ON 1/20/2014. MW-28 AND IW-1R WERE PLOTTED BASED ON APRIL 2016 SURVEY BY MOCK SURVEYING.

# FIGURE 3-10:
# TOTAL XYLENES ISOCONCENTRATION MAP
# APRIL 4-7, 2016

| | | | |
|---|---|---|---|
| DESIGNED BY: A.S. | DRAWN BY: S.F.H. | CHECKED BY: A.G. | |
| APPROVED BY: R.M. | | REVISIONS NO. | DATE |
| SEAL: | | | |

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ENVIRONMENTAL INTERNATIONAL CORP.
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ALPHARETTA GEORGIA 30009

| SCALE: | DATE: | FILE: | SHEET NO.: |
|---|---|---|---|
| SEE BAR SCALE | 06/21/2016 | 390049 - APR 2016 GW REPORT | |

PCE REMEDIATION, VOPAK TERMINAL SAVANNAH, SAVANNAH GEORGIA

# APRIL 2016 GROUNDWATER MONITORING REPORT

# ATTACHMENT A
# April 2016 Survey Report

1. HORIZONTAL DATUM BASED UPON GEORGIA STATE PLANE NAD83. THE VERTICAL IS BASED UPON NAVD 88 ESTABLISHED BY THE EGPS STATE WIDE NETWORK WITH A CHAMPION ROVER AND CARLSON COLLECTOR.

| PT | NORTHING | EASTING | NGVD29 | NAVD88 | DESC. |
|---|---|---|---|---|---|
| 500 | 771241.14 | 976174.21 | 10.52 | 9.56 | GS |
| 501 | 771241.74 | 976173.89 | 10.51 | 9.55 | MW IWR1 |
| 502 | 771196.40 | 976272.44 | 11.52 | 10.56 | GS |
| 503 | 771196.81 | 976272.08 | 11.36 | 10.40 | MW |
| 504 | 771196.61 | 976272.18 | 11.52 | 10.56 | TOC |
| 505 | 771195.71 | 976271.90 | 11.34 | 10.38 | GS |
| 506 | 771336.22 | 976325.93 | 12.61 | 11.65 | TOC |
| 507 | 771336.72 | 976325.61 | 12.11 | 11.15 | SEA |
| 508 | 771348.48 | 976317.59 | 11.93 | 10.97 | SEA |
| 509 | 771349.66 | 976316.31 | 12.13 | 11.17 | SEC |
| 510 | 771339.99 | 976301.83 | 12.15 | 11.19 | SEC |
| 511 | 771337.83 | 976301.51 | 11.77 | 10.81 | SEA |
| 512 | 771349.35 | 976293.57 | 11.73 | 10.77 | SEA |
| 513 | 771349.06 | 976295.95 | 12.15 | 11.19 | SEC |
| 514 | 771302.27 | 976273.56 | 11.85 | 10.89 | TOC |
| 515 | 771302.78 | 976273.05 | 11.40 | 10.44 | SEA |
| 516 | 771340.12 | 976241.74 | 10.15 | 9.19 | SEA |
| 517 | 771293.15 | 976194.86 | 9.87 | 8.91 | SEA |
| 518 | 771271.09 | 976209.66 | 10.90 | 9.94 | SEA |
| 519 | 771262.83 | 976214.00 | 10.95 | 9.99 | SEA |
| 520 | 771262.38 | 976214.34 | 11.43 | 10.47 | TOC |
| 521 | 771261.30 | 976203.65 | 10.72 | 9.76 | TOC |
| 522 | 771261.07 | 976203.68 | 10.49 | 9.53 | MW |
| 523 | 771223.85 | 976157.80 | 10.98 | 10.02 | TOC |
| 524 | 771224.49 | 976157.35 | 10.49 | 9.53 | SEA |
| 525 | 771237.01 | 976144.57 | 10.23 | 9.27 | SEA |
| 526 | 771244.74 | 976136.03 | 9.64 | 8.68 | SEA |
| 527 | 771263.50 | 976117.35 | 9.32 | 8.36 | SEA |
| 528 | 771278.71 | 976099.37 | 9.56 | 8.60 | SE |
| 529 | 771279.09 | 976099.34 | 9.89 | 8.93 | TOW |
| 530 | 771293.10 | 976110.60 | 9.77 | 8.81 | TOW |
| 531 | 771292.92 | 976110.87 | 9.50 | 8.54 | SEA |
| 532 | 771281.15 | 976131.26 | 8.91 | 7.95 | GI |
| 533 | 771224.94 | 976054.43 | 10.31 | 9.35 | TOW |
| 534 | 771224.74 | 976054.46 | 10.01 | 9.05 | SEA |
| 535 | 771211.07 | 976070.94 | 9.67 | 8.71 | SEA |
| 536 | 771202.16 | 976076.84 | 9.50 | 8.54 | SEA |
| 537 | 771194.98 | 976081.49 | 9.92 | 8.96 | SEA |
| 538 | 771179.75 | 976091.47 | 10.17 | 9.21 | SEA |
| 539 | 771179.22 | 976092.07 | 10.64 | 9.68 | TOC |
| 540 | 771149.83 | 976048.79 | 10.63 | 9.67 | TOC |
| 541 | 771150.29 | 976048.31 | 10.10 | 9.14 | SEA |
| 542 | 771154.38 | 976045.28 | 10.10 | 9.14 | SEA |
| 543 | 771153.90 | 976016.33 | 10.40 | 9.44 | TOC |
| 544 | 771170.92 | 976023.05 | 9.99 | 9.03 | SEA |
| 545 | 771196.82 | 976045.45 | 9.93 | 8.97 | SEA |
| 546 | 771400.15 | 976291.94 | 10.34 | 9.38 | SEA |
| 547 | 771197.81 | 975928.70 | 10.93 | 9.97 | TOE |
| 548 | 771197.19 | 975927.62 | 11.37 | 10.41 | TOP |
| 549 | 771196.82 | 975927.27 | 11.24 | 10.28 | TOE |
| 550 | 771182.36 | 975927.17 | 11.20 | 10.24 | TOE |
| 551 | 771182.25 | 975928.03 | 11.31 | 10.35 | TOP |
| 552 | 771181.90 | 975929.05 | 10.85 | 9.89 | TOE |
| 553 | 771156.89 | 975909.70 | 11.13 | 10.17 | TOE |
| 554 | 771157.60 | 975909.17 | 11.51 | 10.55 | TOP |
| 555 | 771158.41 | 975908.48 | 11.14 | 10.18 | TOE |
| 556 | 771134.68 | 975881.23 | 11.23 | 10.27 | TOE |
| 557 | 771135.55 | 975880.58 | 11.68 | 10.72 | TOP |
| 558 | 771136.53 | 975879.89 | 11.29 | 10.33 | TOE |
| 559 | 771103.68 | 975830.75 | 11.40 | 10.44 | TOE |
| 560 | 771102.65 | 975830.57 | 11.92 | 10.96 | TOP |
| 561 | 771101.50 | 975830.64 | 11.47 | 10.51 | TOE |
| 562 | 771111.33 | 975824.71 | 11.25 | 10.29 | TOE |
| 563 | 771110.49 | 975823.88 | 11.61 | 10.65 | TOP |
| 564 | 771109.96 | 975823.11 | 11.29 | 10.33 | TOE |
| 565 | 771108.91 | 975821.66 | 11.24 | 10.28 | GI |
| 566 | 771106.83 | 975817.97 | 11.29 | 10.28 | GI |
| 567 | 771110.05 | 975820.68 | 11.35 | 10.39 | TOC |
| 568 | 771110.62 | 975820.34 | 11.52 | 10.56 | TOP |
| 569 | 771111.09 | 975819.89 | 11.21 | 10.25 | TOE |
| 570 | 771098.07 | 975798.47 | 11.45 | 10.49 | TOE |
| 571 | 771096.48 | 975798.43 | 11.61 | 10.65 | TOP |
| 572 | 771097.20 | 975798.42 | 11.49 | 10.53 | TOE |
| 573 | 771210.87 | 975866.72 | 10.37 | 9.41 | SE |
| 574 | 771217.28 | 975875.91 | 11.47 | 10.51 | SE |
| 575 | 771287.97 | 976160.94 | 8.66 | 7.70 | SEA |
| 576 | 771287.77 | 976163.85 | 8.55 | 7.59 | GI |
| 577 | 771282.97 | 976140.19 | 9.15 | 8.19 | SEA |
| 578 | 771282.96 | 976169.19 | 9.53 | 8.57 | SEA |
| 579 | 771297.89 | 976171.51 | 9.44 | 8.48 | SEA |
| 580 | 771298.29 | 976171.27 | 10.63 | 9.67 | TOW |
| 581 | 771336.50 | 976205.78 | 10.84 | 9.88 | TOW |
| 582 | 771336.45 | 976206.18 | 9.72 | 8.76 | SEA |
| 583 | 771366.41 | 976233.15 | 9.83 | 8.87 | SEA |
| 584 | 771366.48 | 976233.02 | 10.91 | 9.95 | TOW |
| 585 | 771363.11 | 976247.20 | 10.23 | 9.27 | SEA |
| 586 | 771380.32 | 976253.92 | 9.55 | 8.59 | GI |
| 587 | 771380.32 | 976260.29 | 10.25 | 9.29 | SEA |
| 588 | 771387.54 | 976250.74 | 9.81 | 8.85 | SEA |
| 589 | 771387.52 | 976250.29 | 11.01 | 10.05 | TOW |
| 590 | 771406.41 | 976279.37 | 10.23 | 9.27 | SEA |
| 591 | 771408.99 | 976273.94 | 9.81 | 8.85 | GI |
| 592 | 771414.06 | 976263.70 | 10.39 | 9.43 | SEA |
| 593 | 771414.30 | 976263.56 | 11.17 | 10.21 | TOW |
| 594 | 771194.69 | 975863.16 | 10.52 | 9.56 | SEA |
| 595 | 771194.29 | 975863.38 | 11.27 | 10.31 | TOW |
| 596 | 771192.81 | 975863.03 | 10.91 | 9.95 | TOC |
| 597 | 771143.13 | 975805.35 | 10.89 | 9.93 | SEC |
| 598 | 771155.60 | 975809.03 | 10.98 | 10.02 | SEC |
| 599 | 771156.75 | 975808.12 | 11.31 | 10.35 | TOW |
| 600 | 771157.04 | 975808.09 | 10.42 | 9.46 | SE |
| 601 | 771140.07 | 975784.03 | 11.25 | 10.29 | TOW |
| 602 | 771140.67 | 975787.15 | 11.04 | 10.08 | SEC |
| 603 | 771139.95 | 975783.97 | 11.53 | 10.57 | TOW |
| 604 | 771135.04 | 975776.67 | 10.62 | 9.66 | SE |
| 605 | 771135.61 | 975777.35 | 11.52 | 10.56 | TOW |
| 606 | 771113.61 | 975793.27 | 10.93 | 9.97 | SEC |
| 607 | 771107.75 | 975793.94 | 10.94 | 9.98 | EC |
| 608 | 771139.80 | 975817.80 | 11.13 | 10.17 | SEC |
| 609 | 771137.42 | 975828.70 | 10.86 | 9.90 | SEC |
| 610 | 771128.81 | 975832.12 | 11.05 | 10.09 | EC |
| 611 | 771128.62 | 975881.38 | 11.40 | 10.44 | EC |
| 612 | 771174.71 | 975883.04 | 10.21 | 9.25 | GI |
| 613 | 771183.16 | 975870.38 | 11.35 | 10.39 | TOW |
| 614 | 771182.50 | 975869.19 | 10.48 | 9.52 | SEC |
| 615 | 771183.74 | 975867.07 | 10.40 | 9.44 | GI |
| 616 | 771180.00 | 975860.35 | 10.45 | 9.49 | SEC |
| 617 | 771178.03 | 975863.33 | 10.72 | 9.76 | SEC |
| 618 | 771171.59 | 975864.47 | 10.92 | 9.96 | SEC |
| 619 | 771163.82 | 975869.82 | 10.58 | 9.62 | SEC |
| 620 | 771158.04 | 975874.60 | 10.89 | 9.93 | SEC |
| 621 | 771157.11 | 975874.31 | 10.87 | 9.91 | EC |
| 622 | 771176.03 | 975873.20 | 11.40 | 10.44 | SEC |
| 623 | 771181.26 | 975879.94 | 10.66 | 9.70 | SEC |
| 624 | 771557.58 | 975500.61 | 19.02 | 18.96 | TOP |
| 625 | 771547.79 | 975490.80 | 20.58 | 19.62 | TOP |
| 626 | 771541.71 | 975494.78 | 18.82 | 17.86 | TOE |
| 627 | 771539.22 | 975493.12 | 18.17 | 17.21 | ER |
| 628 | 771531.56 | 975489.00 | 17.70 | 16.74 | ER |
| 629 | 771527.34 | 975490.47 | 20.33 | 19.37 | TOP |
| 630 | 771513.31 | 975501.90 | 19.45 | 18.49 | TOP |
| 631 | 771514.93 | 975504.50 | 16.60 | 15.64 | ER |
| 632 | 771519.69 | 975511.62 | 16.31 | 15.35 | ER |
| 633 | 771520.67 | 975513.32 | 16.35 | 15.39 | TOP |
| 634 | 771523.33 | 975517.19 | 13.38 | 12.42 | TOE |
| 635 | 771507.66 | 975530.01 | 13.41 | 12.45 | TOE |
| 636 | 771503.49 | 975526.51 | 13.66 | 12.70 | ER |
| 637 | 771496.49 | 975518.64 | 14.09 | 13.13 | ER |
| 638 | 771493.80 | 975513.05 | 19.36 | 18.40 | TOP |
| 639 | 771507.25 | 975528.45 | 14.83 | 13.87 | TOE |
| 640 | 771559.58 | 975534.60 | 13.00 | 12.04 | SE |
| 641 | 771567.41 | 975552.94 | 13.12 | 12.16 | SE |
| 642 | 771576.29 | 975572.42 | 13.03 | 12.07 | SE |
| 643 | 771581.52 | 975592.51 | 13.11 | 12.15 | SE |
| 644 | 771589.25 | 975613.58 | 13.79 | 12.83 | SE |
| 645 | 771519.93 | 975560.08 | 13.30 | 12.34 | SE |
| 646 | 771508.42 | 975632.08 | 12.58 | 11.62 | SE |
| 647 | 771504.44 | 975625.12 | 13.15 | 12.19 | SE |
| 648 | 771499.05 | 975617.82 | 12.96 | 12.00 | SE |
| 649 | 771490.65 | 975607.24 | 13.11 | 12.15 | SE |
| 650 | 771488.75 | 975600.13 | 12.61 | 11.65 | SE |
| 651 | 771483.03 | 975588.40 | 12.59 | 11.63 | SE |
| 652 | 771476.90 | 975583.10 | 13.13 | 12.17 | SE |
| 653 | 771472.29 | 975572.61 | 12.90 | 11.94 | SE |
| 654 | 771466.45 | 975563.44 | 13.16 | 12.20 | SE |
| 655 | 771461.74 | 975555.89 | 12.86 | 11.90 | SE |
| 656 | 771455.50 | 975543.03 | 13.25 | 12.29 | TOE |
| 657 | 771449.01 | 975538.24 | 17.91 | 16.95 | TOP |
| 658 | 771367.59 | 975570.91 | 16.81 | 15.85 | TOP |
| 659 | 771368.07 | 975576.40 | 12.92 | 11.96 | TOE |
| 660 | 771369.81 | 975589.66 | 12.41 | 11.45 | SE |
| 661 | 771371.35 | 975598.74 | 13.11 | 12.15 | SE |
| 662 | 771374.07 | 975620.08 | 13.12 | 12.06 | SE |
| 663 | 771372.73 | 975629.00 | 12.58 | 11.62 | SE |
| 664 | 771373.54 | 975636.73 | 13.12 | 12.16 | SE |
| 665 | 771372.28 | 975667.03 | 12.92 | 11.96 | SE |
| 666 | 771373.19 | 975675.27 | 12.24 | 11.28 | SE |
| 667 | 771374.94 | 975688.86 | 13.00 | 12.04 | SE |
| 668 | 771365.09 | 975684.21 | 12.35 | 11.39 | SE |
| 669 | 771345.70 | 975685.85 | 12.73 | 11.77 | SE |
| 670 | 771342.60 | 975675.39 | 12.33 | 11.37 | SE |
| 671 | 771222.15 | 975653.75 | 12.08 | 11.12 | SE |
| 672 | 771222.64 | 975650.17 | 12.78 | 11.82 | SE |
| 673 | 771222.60 | 975650.05 | 12.78 | 11.82 | SE |
| 674 | 771218.77 | 975633.86 | 12.41 | 11.45 | SE |
| 675 | 771219.15 | 975627.28 | 12.78 | 11.82 | SE |
| 676 | 771219.78 | 975614.71 | 12.79 | 11.83 | SE |
| 677 | 771220.02 | 975610.55 | 12.45 | 11.49 | SE |
| 678 | 771306.00 | 975565.14 | 17.63 | 16.67 | TOP |
| 679 | 771308.20 | 975567.75 | 15.94 | 14.98 | ER |
| 680 | 771313.15 | 975573.91 | 16.06 | 15.10 | ER |
| 681 | 771315.07 | 975576.41 | 16.70 | 15.74 | TOP |
| 682 | 771317.19 | 975582.83 | 12.86 | 11.90 | TOE |
| 683 | 771281.71 | 975593.79 | 12.69 | 11.73 | SE |
| 684 | 771283.46 | 975607.39 | 12.74 | 11.78 | SE |
| 685 | 771284.13 | 975610.66 | 13.10 | 12.14 | SE |
| 686 | 771284.49 | 975622.93 | 13.13 | 12.17 | SE |
| 687 | 771285.05 | 975626.98 | 12.85 | 11.89 | SE |
| 688 | 771286.21 | 975630.54 | 13.15 | 12.19 | SE |
| PT | NORTHING | EASTING | NGVD29 | NAVD88 | DESC. |
| 689 | 771290.57 | 975642.06 | 12.99 | 12.03 | SE |
| 690 | 771296.58 | 975651.44 | 12.86 | 11.90 | SE |
| 691 | 771296.42 | 975653.82 | 13.04 | 12.08 | SE |
| 692 | 771295.54 | 975661.92 | 12.98 | 12.02 | SE |
| 693 | 771296.10 | 975665.93 | 12.38 | 11.42 | SE |
| 694 | 771297.40 | 975671.76 | 12.53 | 11.57 | SE |
| 695 | 771129.04 | 975653.33 | 11.43 | 10.47 | SE |
| 696 | 771136.99 | 975631.72 | 11.41 | 10.45 | SE |
| 697 | 771137.71 | 975628.23 | 12.02 | 11.06 | SE |
| 698 | 771141.16 | 975619.74 | 12.01 | 11.05 | SE |
| 699 | 771142.10 | 975617.01 | 11.26 | 10.30 | SE |
| 700 | 771142.86 | 975613.29 | 12.19 | 11.23 | SE |
| 701 | 771145.21 | 975605.30 | 12.16 | 11.20 | SE |
| 702 | 771147.88 | 975593.95 | 12.42 | 11.46 | SE |
| 703 | 771181.94 | 975627.36 | 11.97 | 11.01 | SE |
| 704 | 771174.42 | 975541.72 | | | BC |
| 705 | 771186.81 | 975579.74 | | | BC |
| 706 | 771149.52 | 975591.87 | | | BC |
| 707 | 771168.62 | 975713.03 | 12.09 | 11.13 | SE |
| 708 | 771169.27 | 975729.36 | 12.28 | 11.32 | SE |
| 709 | 771158.31 | 975737.34 | 10.85 | 9.89 | SE |
| 710 | 771178.58 | 975765.31 | 11.24 | 10.28 | TOW |
| 711 | 771175.18 | 975761.19 | 10.75 | 9.79 | SE |
| 712 | 771222.21 | 975829.73 | 10.82 | 9.86 | TOW |
| 713 | 771228.28 | 975839.66 | 10.71 | 9.75 | TOW |
| 714 | 771228.72 | 975855.51 | 10.98 | 10.02 | TOW |
| 715 | 771222.83 | 975823.41 | 10.63 | 9.67 | GI |
| 716 | 771182.48 | 975749.10 | 11.85 | 10.89 | SE |
| 717 | 771139.43 | 975563.64 | | | BC |
| 718 | 771078.05 | 975616.89 | 10.62 | 9.66 | SE |
| 719 | 771081.26 | 975610.86 | 11.30 | 10.34 | SE |
| 720 | 771085.18 | 975602.32 | 11.33 | 10.37 | SE |
| 721 | 771086.39 | 975598.46 | 11.18 | 10.22 | SE |
| 722 | 771095.01 | 975584.13 | 11.91 | 10.95 | SE |
| 723 | 771096.51 | 975578.11 | 12.15 | 11.19 | TOE |
| 724 | 771099.08 | 975568.73 | 18.45 | 17.49 | TOP |
| 725 | 771080.74 | 975570.03 | 17.60 | 16.64 | TOW |
| 726 | 771063.61 | 975560.14 | 17.57 | 16.61 | TOW |
| 727 | 771067.73 | 975553.73 | 13.01 | 12.05 | TOE |
| 728 | 771063.99 | 975569.35 | 12.11 | 11.15 | SE |
| 729 | 771063.54 | 975570.25 | 11.71 | 10.75 | SE |
| 730 | 771054.66 | 975576.17 | 11.90 | 10.94 | SE |
| 731 | 770959.95 | 975449.25 | 17.57 | 16.61 | TOW |
| 732 | 770959.48 | 975450.78 | 15.08 | 14.12 | TOE |
| 733 | 770966.94 | 975477.84 | 14.02 | 13.06 | TOE |
| 734 | 770967.75 | 975477.25 | 17.57 | 16.61 | TOW |
| 735 | 771004.53 | 975515.45 | 17.52 | 16.56 | TOW |
| 736 | 771003.61 | 975515.92 | 13.02 | 12.06 | TOF |
| 737 | 771003.38 | 975516.30 | 11.73 | 10.77 | SE |
| 738 | 771059.54 | 975554.24 | 17.55 | 16.59 | TOW |
| 739 | 771046.62 | 975547.53 | 12.30 | 11.34 | TOE |
| 740 | 771050.59 | 975581.53 | 11.49 | 10.53 | SE |
| 741 | 771038.26 | 975588.90 | 11.32 | 10.36 | SE |
| PT | NORTHING | EASTING | NGVD29 | NAVD88 | DESC. |
| 742 | 771034.41 | 975590.77 | 11.15 | 10.19 | SE |
| 743 | 771027.89 | 975594.86 | 11.15 | 10.19 | SE |
| 744 | 771023.00 | 975598.33 | 10.74 | 9.78 | SE |
| 745 | 771017.29 | 975600.98 | 11.54 | 10.58 | SE |
| 746 | 770996.14 | 975615.24 | 11.62 | 10.66 | SE |
| 747 | 771029.11 | 975670.49 | 11.40 | 10.44 | SE |
| 748 | 771043.31 | 975680.31 | 11.52 | 10.56 | SE |
| 749 | 771049.57 | 975656.21 | 11.02 | 10.06 | SE |
| 750 | 771061.35 | 975648.52 | 10.75 | 9.79 | SE |
| 751 | 771097.51 | 975700.76 | 10.41 | 9.45 | SE |
| 752 | 771084.65 | 975706.95 | 11.01 | 10.05 | SE |
| 753 | 771069.26 | 975716.17 | 11.15 | 10.19 | SE |
| 754 | 771056.16 | 975723.08 | 11.42 | 10.46 | SE |
| 755 | 771077.63 | 975765.15 | 11.73 | 10.77 | SE |
| 756 | 771081.65 | 975761.84 | 11.10 | 10.14 | SE |
| 757 | 771089.22 | 975757.75 | 11.10 | 10.14 | SE |
| 758 | 771096.30 | 975753.90 | 11.25 | 10.29 | SE |
| 759 | 771107.76 | 975770.93 | 11.20 | 10.24 | SE |
| 760 | 771108.06 | 975770.61 | 10.72 | 9.76 | SE |
| 761 | 771135.19 | 975756.45 | 10.34 | 9.38 | SE |
| 762 | 771170.69 | 975808.96 | 10.41 | 9.45 | SE |
| 763 | 770953.79 | 975552.80 | 12.64 | 11.68 | SE |
| 764 | 770958.83 | 975550.14 | 12.00 | 11.04 | SE |
| 765 | 770971.37 | 975541.45 | 11.90 | 10.94 | SE |
| 766 | 770980.42 | 975534.67 | 11.64 | 10.68 | SE |
| 767 | 770984.19 | 975531.62 | 11.89 | 10.93 | SE |
| 768 | 771002.92 | 975516.81 | 11.71 | 10.75 | SE |
| 769 | 770961.27 | 975482.61 | 12.39 | 11.43 | SE |
| 770 | 770941.74 | 975494.31 | 12.57 | 11.61 | SE |
| 771 | 770925.51 | 975504.16 | 12.81 | 11.85 | SE |
| 772 | 770908.44 | 975510.93 | 12.69 | 11.73 | SE |
| 773 | 770881.07 | 975455.61 | 13.16 | 12.20 | SE |
| 774 | 770895.77 | 975444.82 | 13.07 | 12.11 | SE |
| 775 | 770900.40 | 975441.28 | 13.37 | 12.41 | SEA |
| 776 | 770910.40 | 975434.67 | 13.24 | 12.28 | SEA |
| 777 | 770912.00 | 975433.54 | 12.90 | 11.94 | SE |
| 778 | 770918.60 | 975428.99 | 12.96 | 12.00 | SE |
| 779 | 770923.27 | 975425.45 | 13.19 | 12.23 | SE |
| 780 | 770940.22 | 975412.54 | 13.63 | 12.67 | SE |
| 781 | 770950.56 | 975406.88 | 13.25 | 12.29 | TOE |
| 782 | 770957.17 | 975403.45 | 16.77 | 15.81 | TOP |
| 783 | 770914.78 | 974885.51 | 16.34 | 15.38 | MW |
| 784 | 770914.84 | 974885.69 | 13.69 | 12.73 | GS |
| 785 | 770914.04 | 974890.24 | 14.30 | 13.34 | TOC |
| 786 | 770915.48 | 974890.51 | 13.94 | 12.98 | GS |
| 787 | 770916.09 | 974869.49 | 13.46 | 12.50 | GS |
| 788 | 770915.04 | 974869.64 | 13.68 | 12.72 | TOC |
| 789 | 770914.98 | 974868.82 | 16.78 | 15.82 | MW |
| 790 | 770917.41 | 974853.24 | 13.47 | 12.51 | GS |
| 791 | 770917.63 | 974853.39 | 13.76 | 12.80 | TOC |
| 792 | 770918.30 | 974853.80 | 16.10 | 15.14 | MW |
| 793 | 770947.60 | 974911.01 | 13.77 | 12.81 | GS |
| 794 | 770948.74 | 974911.39 | 14.09 | 13.13 | TOC |
| 795 | 770881.56 | 975081.78 | 13.20 | 12.24 | GS |
| 796 | 770881.56 | 975081.11 | 13.17 | 12.21 | MW |
| 797 | 770957.62 | 975109.78 | 14.76 | 13.80 | GS |
| 798 | 770957.01 | 975110.05 | 16.75 | 15.79 | MW |
| 799 | 770940.59 | 974979.32 | 13.54 | 12.58 | MW RW21 |
| 800 | 770949.02 | 974911.44 | 13.81 | 12.85 | MW RW22 |
| 801 | 770912.33 | 974875.34 | 12.96 | 12.00 | GS |
| 802 | 770912.43 | 974875.03 | 14.55 | 13.59 | MW |
| 803 | 770914.36 | 974890.34 | 14.02 | 13.06 | MW RW23 |
| 804 | 771471.54 | 974719.22 | 11.77 | 10.81 | GS |
| 805 | 771471.55 | 974720.12 | 12.05 | 11.09 | TOC |
| 806 | 771471.79 | 974720.41 | 14.70 | 13.74 | MW |
| 807 | 771541.81 | 974632.31 | 13.65 | 12.69 | GS |
| 808 | 771543.17 | 974632.84 | 13.86 | 12.90 | TOC |
| 809 | 771543.57 | 974633.25 | 17.89 | 16.93 | MW PZ12R |
| 810 | 771590.35 | 974713.89 | 14.46 | 13.50 | MW |
| 811 | 771590.15 | 974713.43 | 14.00 | 13.04 | GS |

## LEGEND

TOC – TOP OF CONCRETE
MW – MONITORING WELL
SE – SPOT ELEVATION ON GROUND
SEA – SPOT ELEVATION ASPHALT
SEC – SPOT ELEVATION CONCRETE
GS – GROUND SHOT
TOP – SPOT ELEVATION AT HIGH SPOT
TOE – SPOT ELEVATION AT LOW SPOT
TOW – TOP OF WALL
GI – GRATE INLET
EC – EDGE OF CONCRETE
BC – BUILDING CORNER


**MOCK SURVEYING, INC.**
9134 OLD RIVER ROAD
BROOKLET, GA 30415
PH:(912) 657-4010
SURVEYING@BULLOCH.NET


GEORGIA
LICENSED
No. LS002992
PROFESSIONAL
LAND SURVEYOR
JEFFREY WAYNE MOCK

IN MY PROFESSIONAL OPINION THIS SURVEY WAS PREPARED IN CONFORMITY WITH THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN CHAPTER 180-7 OF THE RULES OF GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS AS SET FORTH IN THE GEORGIA PLAT ACT O.C.G.A. 15-67-67.

100' 50' 0' 100'
GRAPHIC SCALE: 1"=100'-0"

# LIMITED LOCATION SURVEY

VOPAK SAVANNAH TERMINAL
CITY OF SAVANNAH,
CHATHAM COUNTY, GEORGIA
PREPARED FOR:
ENVIROMENTAL INTERNATIONAL CORPORATION

| | |
|---|---|
| PROJECT NO.: | 16-036 |
| DRAWN BY: | JWM |
| SURVEYED BY: | JWM |
| SURVEY DATE: | 4/19/16 |
| CHECKED BY: | JWM |
| SCALE: | 1" = 100' |
| DATE: | 4/22/16 |

**SHEET 1 OF 1**

PCE REMEDIATION, VOPAK TERMINAL SAVANNAH, SAVANNAH GEORGIA

# APRIL 2016 GROUNDWATER MONITORING REPORT

# ATTACHMENT B
# April 2016 EIC Well Purging and Sampling Data Field Logs

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: IW-1R

DATE: 4/6/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 69°F Partly cloudy WM

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 9.90 FT. to 19.90 FT.

INITIAL WATER LEVEL (BTOC): 3.00 FT. | TIME: 14:15 | BTOC WELL SCREEN INTERVAL: 8.90 FT. to 18.90 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 18.9 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -1 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 1423 | 0 | 24.67 | 4.12 | 149 | 0.422 | 41.2 | 0.96 | NM | |
| 1428 | 300 | 26.39 | 4.12 | 143 | 0.420 | 21.3 | 0.63 | NM | |
| 1434 | 700 | 26.17 | 4.13 | 137 | 0.425 | 16.8 | 0.52 | NM | |
| 1439 | 1000 | 25.86 | 4.11 | 135 | 0.425 | 16.1 | 0.47 | NM | |
| 1444 | 1300 | 25.37 | 4.15 | 131 | 0.423 | 14.1 | 0.45 | NM | |
| 1450 | 1600 | 25.79 | 4.16 | 126 | 0.415 | 9.3 | 0.44 | NM | |
| | | | | | | | | 3.90 | |

COMMENTS:

SAMPLE COLLECTION TIME: 14:50

PREPARED BY: Sterling

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 14 |
| Final tubing depth (ft.) BTOC | 14 |
| Initial pump speed | 2.10 |
| Time pump speed was initialized | 14:14 |
| Pump speed at flow into cylinder | 2.10 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: IW-18

DATE: 4/7/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 75° P Wavy Clear

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 3.15 FT. | TIME: 14:52 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 19.3 FT. | MEASURED TOTAL WELL DEPTH (BTOC 19.28 FT. | HEIGHT OF STICK-UP: 0.33 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: ~ BENEATH INNER CAP: ~

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:07 | 0 | 32.80 | 5.32 | 117 | 0.758 | 842 | 0.72 | NM | Pump Intake @ 20' |
| 15:12 | 250 | 31.32 | 5.24 | 102 | 0.780 | 842 | 0.54 | NM | Bubbles |
| 15:17 | 450 | 31.52 | 5.21 | 97 | 0.747 | 678 | 0.45 | NM | |
| 15:22 | 750 | 31.46 | 5.12 | 97 | 0.821 | 510 | 0.39 | NM | |
| 15:27 | 1020 | 31.43 | 5.12 | 92 | 0.826 | 457 | 0.36 | NM | |
| 15:32 | 1350 | 31.50 | 4.92 | 101 | 0.857 | 413 | 0.35 | NM | |
| 15:37 | 1780 | 31.54 | 4.87 | 101 | 0.870 | 295 | 0.34 | NM | |
| 15:42 | 2000 | 31.47 | 4.93 | 92 | 0.900 | 233 | 0.38 | NM | |
| 15:49 | 2400 | 31.55 | 4.90 | 93 | 0.892 | 218 | 0.32 | NM | |
| 15:55 | 2700 | 31.73 | 4.80 | 96 | 0.904 | 202 | 0.33 | NM | |
| 16:00 | 3000 | 31.39 | 4.84 | 91 | ~~0.732~~ | 195 | 0.34 | NM | 0.932 = $S_a$ $C_f$ |
| | | | | | | | | 2.74 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 16.04

PREPARED BY: C Holmes

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

water level unstable initially

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 14.5 |
| Final tubing depth (ft.) BTOC | 14.5 |
| Initial pump speed | 2.00 |
| Time pump speed was initialized | 15:00 |
| Pump speed at flow into cylinder | 2.00 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 15:42 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: water in vault ~ 1.5" above stickup. Pressure under cap water rise up out of well

# ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF ____

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: LAW-PZ-8R

DATE: 4/18/18 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 65°F 10A WSW Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 1.80 FT. to 11.80 FT.

INITIAL WATER LEVEL (BTOC): 2.5 FT. | TIME: 1614 | BTOC WELL SCREEN INTERVAL: 1.32 FT. to 11.32 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 11.1 FT. | MEASURED TOTAL WELL DEPTH (BTOC) FT. | HEIGHT OF STICK-UP: -0.476 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ~ BENEATH OUTER CAP: ~ BENEATH INNER CAP: ~

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, ~~9060A, 310.1, 9056A~~, SM 3500 FE D, 6010C, ~~9034~~, AM20GAX

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:17 | 0 | 26.35 | 5.49 | 91 | 0.647 | 618 | 1.17 | NM | dark grey/brown |
| 16:22 | 300 | 25.27 | 5.46 | 69 | 0.720 | 644 | 0.61 | NM | (cloudy water) |
| 16:27 | 630 | 25.08 | 5.45 | 63 | 0.731 | 515 | 0.56 | NM | |
| 16:33 | 1000 | 25.03 | 5.42 | 62 | 0.704 | 975 | 0.51 | NM | |
| 16:38 | 1300 | 24.91 | 5.42 | 58 | 0.745 | 1000+ | 0.46 | NM | |
| 16:43 | 1700 | 24.83 | 5.42 | 54 | 0.749 | 1000+ | 0.42 | NM | |
| 16:48 | 2100 | 25.19 | 5.40 | 52 | 0.749 | 573 | 0.42 | NM | |
| 16:53 | 2400 | 25.18 | 5.40 | 49 | 0.750 | 449 | 0.39 | NM | |
| 16:58 | 2700 | 25.02 | 5.40 | 45 | 0.751 | 813 | 0.39 | NM | |
| 17:03 | 3050 | 24.71 | 5.42 | 40 | 0.756 | 815 | 0.39 | NM | |
| 17:08 | 3400 | 24.46 | 5.43 | 35 | 0.757 | 582 | 0.39 | NM | |
| 17:13 | 3700 | 24.45 | 5.41 | 32 | 0.761 | 750 | 0.37 | NM | |
| 17:18 | 4000 | 24.21 | 5.44 | 31 | 0.763 | 585 | 0.39 | NM | |
| | | | | | | | | 3.12 | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 17:20

PREPARED BY: S Helms

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 6.8 |
| Final tubing depth (ft.) BTOC | 6.9 |
| Initial pump speed | 2.18 |
| Time pump speed was initialized | 16:08 |
| Pump speed at flow into cylinder | 2.19 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 16:47 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: 3 well volumes reached.

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-14

DATE: 4/5/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 65°F Windy Clear

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

INITIAL WATER LEVEL (BTOC): 6.60 FT. | TIME: 16:24 | BTOC WELL SCREEN INTERVAL: 39.44 FT. to 49.57 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): FT. | MEASURED TOTAL WELL DEPTH (BTOC 49.57 FT. | HEIGHT OF STICK-UP: 0 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:39 | 0 | 27.84 | 5.85 | 98 | 0.417 | 7.3 | 2.45 | 6.97 | |
| 16:44 | 300 | 25.97 | 6.40 | 57 | 0.460 | 3.2 | 1.31 | 6.95 | |
| 16:49 | 600 | 24.72 | 6.51 | 34 | 0.478 | 2.0 | 1.54 | 7.00 | |
| 16:54 | 900 | 23.93 | 6.77 | 17 | 0.487 | 1.1 | 1.45 | 7.00 | |
| 16:59 | 1200 | 23.43 | 6.83 | 9 | 0.493 | 0.0 | 1.41 | 7.05 | |
| 17:04 | 1450 | 23.18 | 6.86 | 4 | 0.494 | 0.0 | 1.28 | 7.05 | |
| | | | | | | | | | |
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COMMENTS:

SAMPLE COLLECTION TIME: 17:06

PREPARED BY: Stephany

* Parameters are stablized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 47 |
| Initial tubing depth (ft.) BTOC | 44.5 |
| Final tubing depth (ft.) BTOC | 44.5 |
| Initial pump speed | 2.00 |
| Time pump speed was initialized | 16:30 |
| Pump speed at flow into cylinder | 2.06 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-16

DATE: 4/6/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 62°F Clear windy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 11.73 FT. TIME: 9:24 | BTOC WELL SCREEN INTERVAL: 8.13 FT. to 18.13 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 13.98 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.02 FT. | HEIGHT OF STICK-UP: 3.18 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: ~ BENEATH INNER CAP: ~

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:57 | 0 | 19.76 | 5.42 | 101 | 0.445 | 43.0 | 1.05 | NM | |
| 10:02 | 200 | 19.91 | 5.43 | 128 | 0.447 | 31.0 | 1.01 | NM | |
| 10:07 | 420 | 19.99 | 5.44 | 108 | 0.448 | 26.5 | 0.94 | NM | |
| 10:12 | 600 | 20.05 | 5.44 | 105 | 0.448 | 23.5 | 0.89 | NM | |
| 10:17 | 820 | 20.13 | 5.44 | 100 | 0.449 | 19.9 | 0.84 | NM | |
| 10:24 | 950 | 20.29 | 5.45 | 97 | 0.449 | 18.5 | 0.80 | NM | |
| 10:29 | 1150 | 20.30 | 5.45 | 94 | 0.449 | 19.9 | 0.76 | NM | |
| 10:34 | 1300 | 20.35 | 5.45 | 93 | 0.450 | 16.0 | 0.72 | NM | |
| 10:40 | 1506 | 20.39 | 5.45 | 91 | 0.451 | 14.1 | 0.68 | NM | |
| 10:45 | 1700 | 20.44 | 5.45 | 89 | 0.451 | 14.7 | 0.67 | NM | |
| 10:50 | 1800 | 20.48 | 5.45 | 88 | 0.451 | 15.6 | 0.69 | NM | |
| 10:55 | 1950 | 20.56 | 5.45 | 87 | 0.452 | 12.9 | 0.66 | NM | |
| 11:00 | 2100 | 20.63 | 5.44 | 87 | 0.452 | 12.5 | 0.65 | NM | |
| | | | | | | | | 12.52 | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 11:03

PREPARED BY: [illegible]

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12.90 |
| Final tubing depth (ft.) BTOC | 12.90 |
| Initial pump speed | 1.52 |
| Time pump speed was initialized | 9:35 |
| Pump speed at flow into cylinder | 1.53 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

14.02 − 11.73

14.00 − 11.73

2,000 mL volume poured into bucket:

| Time | 10:57 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: 3 well volumes removed. Unsuccessful attempt to lower dissolved oxygen

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-17 R

DATE: 4/7/10 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear 71°F windy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.60 FT. to 20.60 FT.

INITIAL WATER LEVEL (BTOC): 10.73 FT. | TIME: 11:01 | BTOC WELL SCREEN INTERVAL: 9.12 FT. to 24.12 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.99 FT. | MEASURED TOTAL WELL DEPTH (BTOC 23.96 FT. | HEIGHT OF STICK-UP: 3.52 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ~ BENEATH OUTER CAP: ~ BENEATH INNER CAP: ~

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 11:18 | 0 | 23.38 | 6.10 | 15 | 0.358 | 108 | 1.34 | NM | |
| 11:23 | 300 | 23.94 | 5.89 | 23 | 0.357 | 105 | 1.06 | NM | |
| 11:28 | 600 | 24.37 | 5.87 | 24 | 0.353 | 111 | 0.86 | NM | |
| 11:33 | 900 | 24.62 | 5.87 | 24 | 0.354 | 93.0 | 0.79 | NM | |
| 11:38 | 1020 | 24.85 | 5.87 | 23 | 0.352 | 92.3 | 0.79 | NM | |
| 11:43 | 1400 | 24.99 | 5.85 | 24 | 0.352 | 73.2 | 0.75 | NM | |
| 11:48 | 1800 | 24.99 | 5.81 | 23 | 0.355 | 86 60.7 | 0.72 | NM | |
| 11:53 | 1800 | 25.08 | 5.82 | 23 | 0.355 | 41.7 | 0.86 | NM | |
| 11:58 | 2100 | 25.17 | 7.04 pH | 30 | 0.361 | 42.8 | 0.96 | NM | 5.78 = pH |
| 12:06 | 2400 | 25.02 | 5.82 | 21 | 0.360 | 41.1 | 1.04 | NM | Air Vent Bubbles |
| 12:11 | 2600 | 26.59 | 5.81 | 22 | 0.359 | 38.2 | 1.02 | NM | |
| 12:16 | 2900 | 27.02 | 5.81 | 22 | 0.355 | 29.3 | 0.90 | NM | |
| 12:21 | 3400 | 27.18 | 5.80 | 22 | 0.354 | 23.1 | 0.91 | NM | |
| 12:26 | 3100 | 27.37 | 5.80 | 21 | 0.354 | 22.2 | 0.81 | NM | |
| | | | | | | | | 17.85 15.09 | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 12:29

PREPARED BY: S Herring

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 25 |
| Initial tubing depth (ft.) BTOC | 17.5 |
| Final tubing depth (ft.) BTOC | 12.5 |
| Initial pump speed | 2.00 |
| Time pump speed was initialized | 11:05 |
| Pump speed at flow into cylinder | 2.01 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

Increase Pump rate to 1/min

Draw down

1.67 at 12:01

2,000 mL volume poured into bucket:

| Time | 11:55 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Cleared water line prior collection

# ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-18R

DATE: ~~10~~ 4/5/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 70°F Clear humid

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.15 FT. | TIME: 11:34 | BTOC WELL SCREEN INTERVAL: 6.66 FT. to 16.66 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.61 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.55 FT. | HEIGHT OF STICK-UP: 3.66 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, ~~8000A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX~~

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 11:52 | 0 | 23.83 | 4.11 | 206 | 0.294 | 52.8 | 1.67 | NM | |
| 11:57 | 550 | 23.92 | 3.99 | 219 | 0.291 | 39.1 | 1.06 | NM | |
| 12:02 | 1100 | 23.93 | 3.99 | 221 | 0.291 | 51.1 | 0.73 | NM | |
| 12:07 | 1700 | 24.11 | 3.99 | 223 | 0.292 | 102 | 0.62 | NM | |
| 12:14 | 2500 | 24.11 | 4.02 | 220 | 0.294 | 235 | 0.55 | NM | |
| 12:22 | 2500 | 24.40 | 4.05 | 223 | 0.293 | 275 | 0.79 | NM | |
| 12:27 | 3150 | 24.74 | 4.07 | 214 | 0.295 | 238 | 0.59 | NM | |
| 12:32 | 3800 | 24.38 | 4.09 | 218 | 0.296 | 178 | 0.50 | NM | |
| 12:37 | 4400 | 24.40 | 4.09 | 213 | 0.297 | 143 | 0.49 | NM | |
| 12:42 | 4700 | 24.51 | 4.10 | 213 | 0.298 | 121 | 0.48 | NM | |
| | | | | | | | | 5.30 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 12:45

PREPARED BY: Shelby

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11.5 |
| Final tubing depth (ft.) BTOC | 11.5 |
| Initial pump speed | 3.16 |
| Time pump speed was initialized | 11:41 |
| Pump speed at flow into cylinder | 3.16 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

12:15 stopped ~~flow~~ STL pump to check Horiba Turbidity sensor

12:18 resumed pump.

2,000 mL volume poured into bucket:

| Time | 12:09 | 12:15 | 12141 | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 2500 | 4500 | | | | | |

Additional remarks: wasps Nest inside cap (External)

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-19

DATE: 4/4/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 75°F Clear Light Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER

BGS WELL SCREEN INTERVAL: 3.38 FT. to 13.38 FT.

INITIAL WATER LEVEL (BTOC): 6.50 FT. TIME: 15:41

BTOC WELL SCREEN INTERVAL: 7.58 FT. to 17.58 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 17.97 FT. MEASURED TOTAL WELL DEPTH (BTOC 17.96 FT. HEIGHT OF STICK-UP: 4.2 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:52 | 0 | 26.17 | 6.24 | 125 | 0.950 | 128 | 3.00 | NM | |
| 15:57 | 700 | 24.46 | 5.94 | 119 | 0.955 | 59.5 | 1.17 | NM | |
| 16:02 | 1475 | 24.02 | 5.90 | 118 | 0.947 | 41.3 | 0.69 | NM | |
| 16:07 | 2250 | 24.10 | 5.87 | 117 | 0.943 | 7.0 | 0.57 | NM | |
| 16:12 | 2930 | 24.07 | 5.83 | 118 | 0.936 | 1.2 | 0.51 | NM | |
| 16:18 | 3800 | 24.09 | 5.84 | 117 | 0.930 | 0.0 | 0.48 | NM | |
| 1623 | 4250 | 24.08 | 5.85 | 116 | 0.936 | 0.0 | 0.45 | NM | |
| 1628 | 4700 | 24.18 | 5.85 | 115 | 0.928 | 0.0 | 0.44 | NM | |
| | | | | | | | | 6.50 | |

COMMENTS:

SAMPLE COLLECTION TIME: 16:31

PREPARED BY: C. Helm

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12.5 |
| Final tubing depth (ft.) BTOC | 12.5 |
| Initial pump speed | 3.35 |
| Time pump speed was initialized | 15:49 |
| Pump speed at flow into cylinder | 3.35 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 16:05 | 16:20 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-23

DATE: 4/4/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear 77°F 1.9 mi WNW

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.15 FT. to 11.15 FT.

INITIAL WATER LEVEL (BTOC): 3.30 FT. | TIME: 14:20 | BTOC WELL SCREEN INTERVAL: 5.90 FT. to 10.90 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 11.72 FT. | MEASURED TOTAL WELL DEPTH (BTOC 11.68 FT. | HEIGHT OF STICK-UP: 0.25 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 14:39 | 0 | 27.30 | 6.23 | 153 | 0.747 | 42.7 | 1.25 | NM | |
| 14:34 | 600 | 25.16 | 6.10 | 155 | 0.775 | 205 | 0.97 | NM | |
| 14:51 | 2100 | 27.10 | 5.94 | 168 | 0.741 | 147 | 1.12 | NM | |
| 14:56 | 7300 | 24.86 | 6.20 | 143 | 0.776 | 82.4 | 0.94 | NM | |
| 15:01 | 13000 | 24.42 | 6.18 | 137 | 0.795 | 38.4 | 0.89 | NM | |
| 15:06 | 19000 | 24.89 | 6.21 | 129 | 0.763 | 18.4 | 0.93 | NM | |
| 15:11 | 24900 | 24.61 | 6.25 | 122 | 0.755 | 12.3 | 0.96 | NM | |
| 15:16 | 30000 | 24.64 | 6.24 | 119 | 0.766 | 10.4 | 1.00 | NM | |
| 15:21 | 37000 | 24.64 | 6.21 | 117 | 0.767 | 11.9 | 1.08 | NM | |
| 15:27 | 44000 | 24.82 | 6.24 | 113 | 0.760 | 3.1 | 0.95 | NM | |
| | | | | | | | | 3.30 | |

COMMENTS: | SAMPLE COLLECTION TIME: 15:30 | PREPARED BY: Stelmy

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 8.5 |
| Final tubing depth (ft.) BTOC | 8.5 |
| Initial pump speed | ~~2.40~~ |
| Time pump speed was initialized | ~~14:25~~ |
| Pump speed at flow into cylinder | 3.07 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

SM 3.07 14:15

14:47 - Disconnected Horiba to drain and clean. Confirm Turbidity reading 14:48 reconnect and restart.

2,000 mL volume poured into bucket:

| Time | 13:07 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-24 R

DATE: 4/5/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 74°F Clear Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER

BGS WELL SCREEN INTERVAL: 4.95 FT. to 14.95 FT.

INITIAL WATER LEVEL (BTOC): 5.43 FT. TIME: 15:16

BTOC WELL SCREEN INTERVAL: 8.68 FT. to 18.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 18.15 FT. MEASURED TOTAL WELL DEPTH (BTOC 18.4 FT. HEIGHT OF STICK-UP: 3.73 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ~ BENEATH OUTER CAP: ~ BENEATH INNER CAP: ~

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, ~~8060A, 310.1, 9056A, SM 3503 FE D, 6010C, 9034, AM20GAX~~

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:28 | 0 | 27.02 | 4.86 | 128 | 0.411 | 24.1 | 1.41 | NM | |
| 15:32 | 300 | 25.76 | 4.52 | 114 | 0.423 | 23.0 | 0.91 | NM | |
| 15:38 | 700 | 26.90 | 4.55 | 107 | 0.407 | 24.3 | 0.54 | NM | |
| 15:43 | 1000 | 26.72 | 4.57 | 104 | 0.387 | 25.9 | 0.43 | NM | |
| 15:49 | 1400 | 27.05 | 4.61 | 102 | 0.380 | 11.8 | 0.43 | NM | |
| 15:54 | 1600 | 27.35 | 4.63 | 100 | 0.374 | 10.5 | 0.42 | NM | |
| 15:59 | 1900 | 27.29 | 4.65 | 99 | 0.372 | 9.9 | 0.43 | NM | |
| | | | | | | | | 7.32 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 16:02

PREPARED BY: SH/mh

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 13.5 |
| Final tubing depth (ft.) BTOC | 17.5 |
| Initial pump speed | 2.50 |
| Time pump speed was initialized | 15:21 |
| Pump speed at flow into cylinder | 2.00 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-25

DATE: 4/4/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 73°F Clear Windy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.40 FT. to 16.40 FT.

INITIAL WATER LEVEL (BTOC): 6.35 FT. | TIME: 16:45 | BTOC WELL SCREEN INTERVAL: 9.67 FT. to 19.67 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 17.93 FT. | MEASURED TOTAL WELL DEPTH (BTOC 17.91 FT. | HEIGHT OF STICK-UP: 3.27 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 16:55 | 0 | 25.81 | 5.77 | 54 | 0.579 | 132 | 1.57 | NM | |
| 17:00 | 100 | 25.02 | 5.83 | 33 | 0.571 | 56.9 | 0.76 | NM | |
| 17:06 | 1670 | 24.91 | 5.84 | 25 | 0.567 | 18.0 | 0.60 | NM | |
| 17:11 | 2500 | 24.84 | 5.87 | 21 | 0.570 | 4.8 | 0.53 | NM | |
| | | | | | | | | 6.40 | |

COMMENTS:

SAMPLE COLLECTION TIME: 17:14

PREPARED BY: [signature]

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 14.5 |
| Final tubing depth (ft.) BTOC | 14.5 |
| Initial pump speed | 3.43 |
| Time pump speed was initialized | 16:50 |
| Pump speed at flow into cylinder | 3.43 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 17:01 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-26R

DATE: 4/6/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 80°F partly cloudy breezy windy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.10 FT. to 15.10 FT.

INITIAL WATER LEVEL (BTOC): 3.95 FT. | TIME: 12:47 | BTOC WELL SCREEN INTERVAL: 4.80 FT. to 14.80 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.51 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.51 FT. | HEIGHT OF STICK-UP: 0.3 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:00 | 0 | 25.81 | 5.57 | 131 | 0.608 | 100 | 1.78 | NM | light yellow tint |
| 13:05 | 500 | 25.78 | 5.61 | 98 | 0.609 | 82.3 | 1.15 | NM | |
| 13:10 | 1000 | 25.82 | 5.62 | 85 | 0.624 | 64.7 | 0.84 | NM | |
| 13:15 | 1400 | 25.85 | 5.63 | 79 | 0.643 | 46.8 | 0.73 | NM | |
| 13:20 | 1900 | 25.94 | 5.62 | 71 | 0.657 | 32.6 | 0.63 | NM | |
| 13:25 | 2400 | 26.00 | 5.64 | 66 | 0.661 | 30.6 | 0.57 | NM | |
| 13:30 | 2850 | 25.72 | 5.63 | 61 | 0.651 | 27.5 | 0.55 | NM | |
| 13:35 | 3300 | 25.94 | 5.65 | 57 | 0.631 | 15.3 | 0.53 | NM | |
| 13:40 | 3800 | 25.94 | 5.65 | 52 | 0.626 | 10.9 | 0.49 | NM | |
| 13:45 | 4200 | 25.10 | 5.65 | 49 | 0.644 | 12.0 | 0.46 | NM | |
| 13:50 | 4700 | 26.46 | 5.65 | 46 | 0.648 | 13.7 | 0.45 | NM | |
| 13:58 | 5100 | 26.35 | 5.65 | 42 | 0.644 | 9.9 | 0.46 | NM | |
| | | | | | | | | 3.10 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 13:58

PREPARED BY: Sherry

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 2.61 |
| Time pump speed was initialized | 12:53 |
| Pump speed at flow into cylinder | 2.61 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 13:21 | 13:41 | | | | | | |
| Cummulative Volume (mL) | 2000 | 4000 | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-27

DATE: 4/4/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 72°F Clear Light Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 7.79 FT. to 17.79 FT.

INITIAL WATER LEVEL (BTOC): 4.57 FT. | TIME: 17:28 | BTOC WELL SCREEN INTERVAL: 7.52 FT. to 17.52 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 13.85 FT. | MEASURED TOTAL WELL DEPTH (BTOC 13.84 FT. | HEIGHT OF STICK-UP: -0.27 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:52 | 0 | 26.23 | 6.25 | 68 | 0.355 | 483 | 1.13 | NM | |
| 17:57 | 360 | 26.63 | 6.17 | 69 | 0.364 | 155 | 0.71 | NM | |
| 18:02 | 700 | 26.45 | 6.04 | 65 | 0.394 | 97.4 | 0.89 | NM | |
| 18:08 | 1100 | 25.01 | 5.97 | 68 | 0.403 | 41.8 | 0.94 | NM | |
| 18:13 | 1400 | 24.57 | 5.91 | 70 | 0.415 | 45.7 | 0.91 | NM | |
| 18:18 | 1700 | 24.37 | 5.87 | 73 | 0.429 | 16.1 | 0.95 | NM | |
| 18:23 | 2000 | 23.68 | 5.85 | 69 | 0.438 | 34.5 | 0.84 | NM | |
| 18:28 | 2300 | 23.53 | 5.90 | 69 | 0.445 | 20.5 | 0.78 | NM | |
| 18:33 | 2600 | 23.55 | 5.90 | 70 | 0.450 | 41.2 | 0.82 | NM | |
| 18:38 | 3300 | 23.64 | 5.90 | 70 | 0.452 | 9.5 | 0.93 | NM | |
| | | | | | | | | 7.10 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

COMMENTS:

SAMPLE COLLECTION TIME: 18:41

PREPARED BY: SHelms

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12.50 |
| Final tubing depth (ft.) BTOC | 12.50 |
| Initial pump speed | 2.15 |
| Time pump speed was initialized | 17:32 |
| Pump speed at flow into cylinder | 2.15 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 18:20 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-28

DATE: 4/6/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 65°F clear - front moving

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.71 FT. to 13.71 FT.

INITIAL WATER LEVEL (BTOC): 3.70 FT. | TIME: 9:56 | BTOC WELL SCREEN INTERVAL: FT. to FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.0 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.05 FT. | HEIGHT OF STICK-UP: -0.125 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:11 | 0 | 18.18 | 6.01 | 103 | 0.391 | 37.7 | 4.60 | NM | |
| 10:16 | 350 | 19.23 | 6.15 | 98 | 0.360 | 50.1 | 4.43 | NM | |
| 10:21 | 700 | 19.38 | 6.18 | 94 | 0.374 | 52.5 | 4.07 | NM | |
| 10:26 | 1100 | 19.48 | 6.17 | 100 | 0.378 | 41.4 | 3.49 | NM | |
| 10:31 | 1450 | 19.59 | 6.14 | 102 | 0.377 | 32.7 | 3.17 | NM | |
| 10:36 | 1800 | 19.63 | 6.12 | 105 | 0.380 | 27.4 | 3.24 | NM | |
| 10:41 | 2200 | 19.31 | 6.07 | 109 | 0.379 | 22.6 | 3.13 | NM | |
| | | | | | | | | 6.07 | |

COMMENTS:

SAMPLE COLLECTION TIME: 10:46

PREPARED BY: S Hilmin

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 9 |
| Final tubing depth (ft.) BTOC | 9 |
| Initial pump speed | 2.30 |
| Time pump speed was initialized | 10:03 |
| Pump speed at flow into cylinder | 2.50 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 10:37 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Sampled due to time constraints

## ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-29

DATE: 4/6/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Cloudy 62°F Wet wm

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [ ] 2 [ ] 4 [ ] 6 [X] OTHER (3/4") | BGS WELL SCREEN INTERVAL: 10.00 FT. to 20.00 FT.

INITIAL WATER LEVEL (BTOC): 5.82 FT. | TIME: 17:43 | BTOC WELL SCREEN INTERVAL: 13.55 FT. to 23.55 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 23.26 FT. | MEASURED TOTAL WELL DEPTH (BTOC 23.15 FT. | HEIGHT OF STICK-UP: 3.55 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:59 | 0 | 23.17 | 4.43 | 116 | 0.900 | 57.9 | 1.19 | NM | |
| 18:04 | 300 | 21.87 | 4.37 | 108 | 0.957 | 81.6 | 0.77 | NM | |
| 18:09 | 600 | 21.18 | 4.41 | 105 | 1.03 | 61.5 | 0.74 | NM | |
| 18:14 | 900 | 21.00 | 4.43 | 103 | 1.09 | 49.3 | 0.71 | NM | |
| 18:19 | 1200 | 20.66 | 4.40 | 102 | 1.17 | 37.9 | 0.68 | NM | |
| 18:24 | 1600 | 20.49 | 4.42 | 101 | 1.20 | 33.4 | 0.64 | NM | |
| 18:29 | 1800 | 20.45 | 4.41 | 12 | 1.20 | 34.9 | 0.60 | NM | |
| 18:34 | 2200 | 20.33 | 4.39 | 93 | 1.21 | 32.3 | 0.56 | NM | |
| | | | | | | | | 9.55 | |

COMMENTS: | SAMPLE COLLECTION TIME: 18:36

PREPARED BY: Stallmy

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 24 |
| Initial tubing depth (ft.) BTOC | 19.5 |
| Final tubing depth (ft.) BTOC | 19.5 |
| Initial pump speed | 2.01 |
| Time pump speed was initialized | 17:43 |
| Pump speed at flow into cylinder | 2.01 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

- Needs 3/4" Cap.

2,000 mL volume poured into bucket:

| Time | 18:31 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Wasp nest in well. Sprayed prior to opening Cap

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-30

DATE: 4/8/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 67°F Rain with Partly Cloudy

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.25 FT. to 15.25 FT.

INITIAL WATER LEVEL (BTOC): 4.90 FT. | TIME: 1615 | BTOC WELL SCREEN INTERVAL: 4.97 FT. to 14.97 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.07 FT. | MEASURED TOTAL WELL DEPTH (BTOC 15.05 FT. | HEIGHT OF STICK-UP: 0.28 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 15:20 | 0 | 25.21 | 4.32 | 149 | 0.265 | 1.1 | 0.88 | 4.93 | |
| 15:25 | 700 | 24.51 | 4.34 | 142 | 0.266 | 2.6 | 0.58 | 4.93 | |
| 15:30 | 1200 | 24.57 | 4.34 | 140 | 0.263 | 1.9 | 0.50 | 4.93 | |
| 15:35 | 1800 | 24.42 | 4.34 | 139 | 0.262 | 3.2 | 0.47 | 4.93 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 15:37

PREPARED BY: [illegible]

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 3.41 |
| Time pump speed was initialized | 1515 |
| Pump speed at flow into cylinder | 3.41 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-31

DATE: 4/4/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 75° F Clear Wind WNW

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 10.50 FT. to 20.50 FT.

INITIAL WATER LEVEL (BTOC): 4.70 FT. | TIME: 13:04 | BTOC WELL SCREEN INTERVAL: 10.08 FT. to 20.08 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 20.48 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: 0.42 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:20 | 0 | 23.59 | 6.09 | ~~+.05~~ 209 | ~~209~~ 1 | ~~0.681~~ | 0.661 | 5.00 | 12.9 NTU |
| 13:25 | 600 | 23.17 | 6.24 | 182 | 0.657 | 8.8 | 1.44 | 5.03 | |
| 13:30 | 1400 | 23.27 | 6.30 | 165 | 0.659 | 13.0 | 1.14 | 5.05 | |
| 13:35 | 2100 | 23.21 | 6.63 | 156 | 0.659 | 9.0 | 0.45 | 5.05 | |
| 13:40 | 2800 | 23.39 | 6.31 | 150 | 0.660 | 4.2 | 0.36 | 5.05 | |
| 13:45 | 3400 | 23.30 | 6.29 | 145 | 0.659 | 1.4 | 0.89 | 5.05 | |
| 13:50 | 3906 | 23.40 | 6.24 | 140 | 0.658 | 0.0 | 0.74 | 5.02 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 13:52

PREPARED BY: Sterling

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 15 |
| Final tubing depth (ft.) BTOC | 15 |
| Initial pump speed | 3.45 |
| Time pump speed was initialized | 13:15 |
| Pump speed at flow into cylinder | 3.45 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 1234 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Water level shifting upon opening well

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-32

DATE: 4/7/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: windy clear 75°F

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT.

INITIAL WATER LEVEL (BTOC): 5.90 FT. | TIME: 1241 | BTOC WELL SCREEN INTERVAL: 6.08 FT. to 16.08 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.43 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.41 FT. | HEIGHT OF STICK-UP: 0.42 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, ~~9060A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX~~

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:01 | 0 | 26.64 | 6.52 | 5 | 0.309 | 3.7 | 4.74 | 6.05 | |
| 13:05 | 400 | 26.45 | 6.67 | -3 | 0.320 | 1.5 | 3.78 | 6.20 | |
| 13:11 | 700 | 26.60 | 6.69 | 0 | 0.324 | 0.0 | 3.81 | 6.25 | |
| 13:15 | 1200 | 26.67 | 6.65 | 0 | 0.327 | 0.0 | 3.69 | 6.30 | |

COMMENTS:

SAMPLE COLLECTION TIME: 13:10

PREPARED BY: SHC/mw

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 29 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 2.70 |
| Time pump speed was initialized | ~~2.70~~ 12:57 |
| Pump speed at flow into cylinder | |
| Started new roll of tubing at | Yes - 20ft from new roll (only FW-18 remains) |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: —

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-33

DATE: 4/5/10 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Windy 62°F Clear

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

INITIAL WATER LEVEL (BTOC): 2.33 FT. | TIME: 13:10 | BTOC WELL SCREEN INTERVAL: 5.50 FT. to 15.50 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.42 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.35 FT. | HEIGHT OF STICK-UP: 0 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: 0 BENEATH OUTER CAP: 0 BENEATH INNER CAP: 0

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, ~~8060A, 310.1, 9056A, SM-3500 FE D, 6010C, 9034, AM20GAX~~

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 13:19 | 0 | 21.57 | 5.12 | 79 | 0.358 | 22.9 | 1.57 | 2.50 | Yellow tint |
| 13:23 | 500 | 21.44 | 5.08 | 77 | 0.364 | 29.5 | 0.73 | 2.50 | |
| 13:28 | 1500 | 21.38 | 4.99 | 76 | 0.363 | 34.3 | 0.61 | 2.55 | |
| 13:32 | 2000 | 21.30 | 5.04 | 72 | 0.369 | 35.3 | 0.53 | 2.55 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 13:35

PREPARED BY: Stlewm

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 3.42 |
| Time pump speed was initialized | 13:12 |
| Pump speed at flow into cylinder | 3.42 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 13:32 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Bubbles appeared in vials (attempts to minimize

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-34

DATE: 4/6/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 68° F Clear

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 6.50 FT. to 16.50 FT.

INITIAL WATER LEVEL (BTOC): 3.40 FT. | TIME: 1055 | BTOC WELL SCREEN INTERVAL: 6.02 FT. to 16.02 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 16.34 FT. | MEASURED TOTAL WELL DEPTH (BTOC 16.34 FT. | HEIGHT OF STICK-UP: 0.48 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN, (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 1102 | 0 | 21.66 | 4.34 | 200 | 0.137 | 49.7 | 1.13 | 3.50 | |
| 1107 | 800 | 21.80 | 4.27 | 212 | 0.133 | 47.7 | 0.86 | 3.50 | |
| 1112 | 1400 | 22.02 | 4.25 | 216 | 0.136 | 42.2 | 0.73 | 3.50 | |
| 1117 | 2000 | 22.19 | 4.25 | 218 | 0.138 | 47.5 | 0.61 | 3.50 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 1119

PREPARED BY: [illegible]

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 3.13 |
| Time pump speed was initialized | 1056 |
| Pump speed at flow into cylinder | 3.17 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 1112 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-35

DATE: 4/7/15 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Cloudy 62°F light wm

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.63 FT. to 15.63 FT.

INITIAL WATER LEVEL (BTOC): ~~5.65~~ 5.55 FT. | TIME: 8:55 | BTOC WELL SCREEN INTERVAL: 5.32 FT. to 15.32 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.32 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -0.31 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:05 | 0 | 20.67 | 6.17 | 127 | 0.508 | 111 | ~~3.63~~ 3.35 | 5.60 | D.O. = 3.63 |
| 9:10 | 500 | 20.97 | 6.37 | 72 | 0.511 | 54.8 | 2.19 | 5.60 | |
| 9:15 | 1000 | 21.04 | 6.43 | 66 | 0.508 | 32.3 | 1.55 | 5.60 | |
| 9:20 | 1500 | 21.08 | 6.47 | 48 | 0.508 | 30.4 | 1.06 | 5.60 | |
| 9:25 | 2000 | 21.21 | 6.47 | 36 | 0.509 | 29.3 | 0.89 | 5.60 | |
| 9:30 | ~~2500~~ 2700 | 21.24 | 6.49 | 30 | 0.510 | 28.1 | 0.79 | 5.60 | |
| 9:36 | 3200 | 21.27 | 6.50 | 20 | 0.510 | 28.9 | 0.71 | 5.60 | |
| 9:41 | 3600 | 21.23 | 6.51 | 17 | 0.509 | 29.0 | 0.68 | 5.60 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 9:43

PREPARED BY: JHelmy

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 19 |
| Initial pump speed | 3.04 |
| Time pump speed was initialized | 8:50 |
| Pump speed at flow into cylinder | ~~3.04~~ 3.01 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 9:25 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Ran during morning prior to well sample

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-36

DATE: 4/7/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: Clear Windy 60's

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.55 FT. to 15.55 FT.

INITIAL WATER LEVEL (BTOC): 6.49 FT. | TIME: 9:56 | BTOC WELL SCREEN INTERVAL: 5.43 FT. to 15.43 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.425 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: -0.125 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ~ BENEATH OUTER CAP: ~ BENEATH INNER CAP: ~

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 10:07 ~~10:07~~ | 0 | 21.84 | 6.15 | 41 | 1.21 | 22.0 | 1.45 | 6.70 | |
| 10:12 | 600 | ~~22.15~~ 21.15 | 6.21 | 20 | 1.22 | 21.9 | 0.96 | 6.77 | |
| 10:17 | 1200 | 22.24 | 6.21 | 13 | 1.22 | 23.0 | 0.78 | 6.80 | |
| 10:22 | ~~1200~~ 1700 | 22.36 | 6.21 | 7 | 1.23 | 22.3 | 0.68 | 6.85 | |
| 10:28 | 2300 | 22.17 | 6.22 | 0 | 1.23 | 24.4 | 0.65 | 6.85 | |
| 10:33 | 2800 | 22.27 | 6.23 | -6 | 1.22 | 22.8 | 0.62 | 6.85 | |
| 10:38 | 3300 | 22.29 | 6.23 | -11 | 1.22 | 22.3 | 0.59 | 6.87 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 10:40

PREPARED BY: SHerwig

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.
Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 11 |
| Final tubing depth (ft.) BTOC | 11 |
| Initial pump speed | 3.01 |
| Time pump speed was initialized | 10:00 |
| Pump speed at flow into cylinder | 3.01 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

10:23
Slowed pump to reduce drawdown
2.67

2,000 mL volume poured into bucket:

| Time | 10:29 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION



## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: MW-37

DATE: 4/6/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 59°F Very windy Clear

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 5.15 FT. to 15.15 FT.

INITIAL WATER LEVEL (BTOC): 4.10 FT. | TIME: 9:02 | BTOC WELL SCREEN INTERVAL: 5.15 FT. to 15.15 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.15 FT. | MEASURED TOTAL WELL DEPTH (BTOC FT. | HEIGHT OF STICK-UP: 0 FT. BGS

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: ~ BENEATH OUTER CAP: ~ BENEATH INNER CAP: ~

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 9:15 | 0 | 18.11 | 5.35 | 104 | 0.282 | 96.5 | 3.14 | 4.12 | |
| 9:20 | 750 | 18.79 | 5.28 | 156 | 0.287 | 83.1 | 1.66 | 4.13 | 4 |
| 9:25 | 1300 | 18.95 | 5.27 | 151 | 0.292 | 77.5 | 1.27 | 4.13 | |
| 9:30 | 1900 | 19.09 | 5.25 | 121 | 0.290 | 67.3 | 1.02 | 4.13 | |
| 9:35 | 2700 | 19.18 | 5.26 | 145 | 0.290 | 58.4 | 0.90 | 4.13 | |
| 9:40 | 3200 | 19.24 | 5.25 | 144 | 0.290 | 506 | 0.92 | 4.13 | |
| 9:45 | 3800 | 19.30 | 5.21 | 145 | 0.290 | 46.6 | 0.75 | 4.13 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 9147

PREPARED BY: Stacy

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 10 |
| Final tubing depth (ft.) BTOC | 10 |
| Initial pump speed | 3.16 |
| Time pump speed was initialized | 9:10 |
| Pump speed at flow into cylinder | 3.57 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | 9:21 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION

PAGE 1 OF 1

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: PAN-MW-9

DATE: 4/5/10 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 60°F Windy Clear

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 6.30 FT. | TIME: 17:17 | BTOC WELL SCREEN INTERVAL: 6.25 FT. to 16.25 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 14.78 FT. | MEASURED TOTAL WELL DEPTH (BTOC 14.77 FT. | HEIGHT OF STICK-UP: 3.25 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B, ~~8260A, 310.1, 9056A, SM 3500 FE D, 6010C, 9034, AM20GAX~~ GN

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 17:31 | 0 | 23.05 | 5.05 | 79 | 0.624 | 66.6 | 0.47 | 6.95 | |
| 17:36 | 350 | 22.31 | 4.86 | 77 | 0.635 | 71.3 | 0.76 | 7.05 | |
| 17:41 | 700 | 22.07 | 4.83 | 73 | 0.625 | 70.2 | 0.68 | 7.15 | |
| 17:46 | 1100 | 21.76 | 4.84 | 69 | 0.609 | 62.9 | 0.63 | 7.25 | |
| 17:53 | 1400 | 21.65 | 4.86 | 64 | 0.600 | 67.7 | 0.59 | 7.46 | |
| 17:58 | 1750 | 21.49 | 4.86 | 61 | 0.597 | 61.5 | 0.60 | 7.60 | |
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COMMENTS:

SAMPLE COLLECTION TIME: 18:02

PREPARED BY: Steamy

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 2.0 |
| Initial tubing depth (ft.) BTOC | 10.5 |
| Final tubing depth (ft.) BTOC | 10.5 |
| Initial pump speed | 2.09 |
| Time pump speed was initialized | 17:22 |
| Pump speed at flow into cylinder | 2.09 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cummulative Volume (mL) | | | | | | | | |

Additional remarks: _____

# ENVIRONMENTAL INTERNATIONAL CORPORATION

## WELL PURGING AND SAMPLING DATA LOG

WELL/SAMPLE NO: PAN-MW-10

DATE: 4/6/16 | PROJECT NAME: VOPAK Savannah | PROJECT NO: 390020

WEATHER CONDITIONS: 76°F Clear Wind

SAMPLE TYPE: [X] GROUNDWATER [ ] WASTEWATER [ ] SURFACE WATER [ ] OTHER

WELL DIAMETER (IN.) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] OTHER | BGS WELL SCREEN INTERVAL: 3.00 FT. to 13.00 FT.

INITIAL WATER LEVEL (BTOC): 8.75 FT. | TIME: | BTOC WELL SCREEN INTERVAL: 6.68 FT. to 16.68 FT.

HISTORICAL TOTAL WELL DEPTH (BTOC): 15.93 FT. | MEASURED TOTAL WELL DEPTH (BTOC 15.9 FT. | HEIGHT OF STICK-UP: 3.68 FT.

PURGING DEVICE: Pegasus Alexis Peristaltic Pump [ ] DEDICATED [ ] DISPOSABLE [ ] DECONTAMINATED

SAMPLING DEVICE: 1/4" Teflon lined tubing [ ] DEDICATED [X] DISPOSABLE [ ] DECONTAMINATED

EQUIP. DECON. [X] ALCONOX WASH [ ] ISOPROPANOL [X] DIST/DEION 1 RINSE [ ] DIST/DEION FINAL RINSE [X] AIR DRY

[ ] LIQUINOX WASH [ ] DIST/DEION 2 RINSE [ ] OTHER SOLVENT [ ] TAP WATER WASH [ ] TAP WATER FINAL RINSE

PID/FID READINGS (ppm): BACKGROUND: — BENEATH OUTER CAP: — BENEATH INNER CAP: —

CONTAINER PRESERVATION: [X] LAB PRESERVED [ ] FIELD PRESERVED

ANALYTICAL PARAMETERS: 8260 B

LABORATORY PERFORMING ANALYSIS: Test America | WATER ANALYZER MODEL: Horiba U-52 | SERIAL # UDRU5DA9

| TIME | VOLUME PURGED (mL) | TEMP (°C) | pH | ORP (mV) | SPEC. COND. (mS/cm) | TURBIDITY (NTU) | DISS. OXYGEN. (mg/L) | DTW (FT) | REMARKS (COLOR, ODOR, ETC.) |
|---|---|---|---|---|---|---|---|---|---|
| 14:38 | 0 | 25.00 | 5.76 | 162 | 0.525 | 57.7 | 5.60 | 8.85 | |
| 14:43 | 700 | 25.50 | 5.73 | 144 | 0.529 | 31.3 | 4.64 | 8.87 | |
| 14:48 | 1580 | 25.32 | 5.92 | 141 | 0.543 | 15.6 | 4.21 | 8.90 | |
| 14:53 | 2200 | 25.05 | 5.89 | 139 | 0.536 | 4.2 | 3.92 | 8.90 | |
| 14:58 | 2900 | 25.02 | 5.88 | 137 | 0.536 | 1.5 | 3.70 | 8.90 | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | 5th | | |

COMMENTS:

SAMPLE COLLECTION TIME: ~~1500~~ 1510

PREPARED BY: [illegible]

* Parameters are stabilized when 3 consecutive readings are within ± 0.1 FOR pH and ± 5% for specific conductivity is constant.

Reasonable attempts must be made to reach a 0.2 mg/L dissolved oxygen reading and a turbidity reading below 10 NTU as per the Groundwater Sampling Operating Procedure, US EPA, Region 4, # SESDPROC-301-R3.

| | |
|---|---|
| Length of tubing cut (ft.) | 20 |
| Initial tubing depth (ft.) BTOC | 12.5 |
| Final tubing depth (ft.) BTOC | 12.5 |
| Initial pump speed | 3.56 |
| Time pump speed was initialized | 14:33 |
| Pump speed at flow into cylinder | 3.56 |
| Started new roll of tubing at | |
| Three well volume (mL) | |

2,000 mL volume poured into bucket:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time | 1452 | | | | | | | |
| Cummulative Volume (mL) | 2000 | | | | | | | |

Additional remarks: Lots of brown water in first run

PCE REMEDIATION, VOPAK TERMINAL SAVANNAH, SAVANNAH GEORGIA

# APRIL 2016 GROUNDWATER MONITORING REPORT

# ATTACHMENT C
# Lab Analytical Results for Groundwater Samples, April 2016

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-123918-1
Client Project/Site: Vopak, P.N. 390020

For:
Environmental International Corporation
161 Kimball Bridge Road
Suite 100
Alpharetta, Georgia 30009

Attn: Amelia Grant

*Authorized for release by:*
*4/20/2016 11:34:38 AM*

Sheila Hoffman, Project Manager II
(912)354-7858 e.3004
sheila.hoffman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

# Sample Summary

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 680-123918-1 | IW-1R | Water | 04/06/16 14:56 | 04/08/16 08:30 |
| 680-123918-2 | IW-18 | Water | 04/07/16 16:04 | 04/08/16 08:30 |
| 680-123918-3 | LAW-PZ-8R | Water | 04/06/16 17:20 | 04/08/16 08:30 |
| 680-123918-4 | MW-14 | Water | 04/05/16 17:06 | 04/08/16 08:30 |
| 680-123918-5 | MW-16 | Water | 04/05/16 11:03 | 04/08/16 08:30 |
| 680-123918-6 | MW-17R | Water | 04/07/16 12:29 | 04/08/16 08:30 |
| 680-123918-7 | MW-18R | Water | 04/05/16 12:45 | 04/08/16 08:30 |
| 680-123918-8 | MW-19 | Water | 04/04/16 16:31 | 04/08/16 08:30 |
| 680-123918-9 | MW-23 | Water | 04/04/16 15:30 | 04/08/16 08:30 |
| 680-123918-10 | MW-24R | Water | 04/05/16 16:02 | 04/08/16 08:30 |
| 680-123918-11 | MW-25 | Water | 04/04/16 17:14 | 04/08/16 08:30 |
| 680-123918-12 | MW-26R | Water | 04/06/16 13:58 | 04/08/16 08:30 |
| 680-123918-13 | MW-27 | Water | 04/04/16 18:41 | 04/08/16 08:30 |
| 680-123918-14 | MW-28 | Water | 04/06/16 10:46 | 04/08/16 08:30 |
| 680-123918-15 | MW-29 | Water | 04/06/16 18:36 | 04/08/16 08:30 |
| 680-123918-16 | MW-30 | Water | 04/06/16 15:37 | 04/08/16 08:30 |
| 680-123918-17 | MW-31 | Water | 04/06/16 13:52 | 04/08/16 08:30 |
| 680-123918-18 | MW-32 | Water | 04/07/16 13:18 | 04/08/16 08:30 |
| 680-123918-19 | MW-33 | Water | 04/05/16 18:35 | 04/08/16 08:30 |
| 680-123918-20 | MW-34 | Water | 04/06/16 11:11 | 04/08/16 08:30 |
| 680-123918-21 | MW-35 | Water | 04/07/16 09:43 | 04/08/16 08:30 |
| 680-123918-22 | MW-36 | Water | 04/07/16 10:40 | 04/08/16 08:30 |
| 680-123918-23 | MW-37 | Water | 04/06/16 09:47 | 04/08/16 08:30 |
| 680-123918-24 | PAN-MW-9 | Water | 04/06/16 18:02 | 04/08/16 08:30 |
| 680-123918-25 | PAN-MW-10 | Water | 04/05/16 15:01 | 04/08/16 08:30 |
| 680-123918-26 | Trip Blank | Water | 04/04/16 00:00 | 04/08/16 08:30 |

# Method Summary

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL SAV |

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative error ratio |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

## Job ID: 680-123918-1

**Laboratory: TestAmerica Savannah**

**Narrative**

# CASE NARRATIVE

## Client: Environmental International Corporation

## Project: Vopak, P.N. 390020

## Report Number: 680-123918-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

**RECEIPT**

The samples were received on 04/08/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.5 C.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples IW-1R (680-123918-1), IW-18 (680-123918-2), LAW-PZ-8R (680-123918-3), MW-14 (680-123918-4), MW-16 (680-123918-5), MW-17R (680-123918-6), MW-18R (680-123918-7), MW-19 (680-123918-8), MW-23 (680-123918-9), MW-24R (680-123918-10), MW-25 (680-123918-11), MW-26R (680-123918-12), MW-27 (680-123918-13), MW-28 (680-123918-14), MW-29 (680-123918-15), MW-30 (680-123918-16), MW-31 (680-123918-17), MW-32 (680-123918-18), MW-33 (680-123918-19), MW-34 (680-123918-20), MW-35 (680-123918-21), MW-36 (680-123918-22), MW-37 (680-123918-23), PAN-MW-9 (680-123918-24), PAN-MW-10 (680-123918-25) and Trip Blank (680-123918-26) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/14/2016, 04/15/2016, 04/17/2016, 04/18/2016 and 04/19/2016.

Samples IW-1R (680-123918-1)[200X], IW-18 (680-123918-2)[100X], IW-18 (680-123918-2)[25X], LAW-PZ-8R (680-123918-3)[1000X], MW-16 (680-123918-5)[2X], MW-16 (680-123918-5)[5X], MW-24R (680-123918-10)[5X], MW-26R (680-123918-12)[100X], MW-26R (680-123918-12)[5X], MW-29 (680-123918-15)[100X], MW-37 (680-123918-23)[10X] and PAN-MW-9 (680-123918-24)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: IW-1R — Lab Sample ID: 680-123918-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 410 | | 200 | 100 | ug/L | 200 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 9500 | | 200 | 82 | ug/L | 200 | | 8260B | Total/NA |
| Benzene | 300 | | 200 | 86 | ug/L | 200 | | 8260B | Total/NA |
| Trichloroethene | 140 | J | 200 | 96 | ug/L | 200 | | 8260B | Total/NA |
| Toluene | 190 | J | 200 | 96 | ug/L | 200 | | 8260B | Total/NA |
| Tetrachloroethene | 300 | | 200 | 150 | ug/L | 200 | | 8260B | Total/NA |
| Chlorobenzene | 1400 | | 200 | 52 | ug/L | 200 | | 8260B | Total/NA |
| Ethylbenzene | 3000 | | 200 | 66 | ug/L | 200 | | 8260B | Total/NA |
| Xylenes, Total | 22000 | | 200 | 46 | ug/L | 200 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 150 | J | 200 | 86 | ug/L | 200 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 1100 | | 200 | 92 | ug/L | 200 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 230 | | 200 | 74 | ug/L | 200 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 1400 | | 1000 | 500 | ug/L | 200 | | 8260B | Total/NA |

## Client Sample ID: IW-18 — Lab Sample ID: 680-123918-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 1000 | | 25 | 13 | ug/L | 25 | | 8260B | Total/NA |
| Acetone | 240 | J | 250 | 180 | ug/L | 25 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 13 | J | 25 | 9.3 | ug/L | 25 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 4600 | | 25 | 10 | ug/L | 25 | | 8260B | Total/NA |
| Benzene | 230 | | 25 | 11 | ug/L | 25 | | 8260B | Total/NA |
| Trichloroethene | 110 | | 25 | 12 | ug/L | 25 | | 8260B | Total/NA |
| Toluene | 120 | | 25 | 12 | ug/L | 25 | | 8260B | Total/NA |
| Tetrachloroethene | 180 | | 25 | 19 | ug/L | 25 | | 8260B | Total/NA |
| Chlorobenzene | 730 | | 25 | 6.5 | ug/L | 25 | | 8260B | Total/NA |
| Ethylbenzene | 1100 | | 25 | 8.3 | ug/L | 25 | | 8260B | Total/NA |
| Isopropylbenzene | 18 | J | 25 | 8.8 | ug/L | 25 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 31 | | 25 | 11 | ug/L | 25 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 190 | | 25 | 12 | ug/L | 25 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 62 | | 25 | 9.3 | ug/L | 25 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 380 | | 130 | 63 | ug/L | 25 | | 8260B | Total/NA |
| Xylenes, Total - DL | 14000 | | 100 | 23 | ug/L | 100 | | 8260B | Total/NA |

## Client Sample ID: LAW-PZ-8R — Lab Sample ID: 680-123918-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 5200 | | 1000 | 410 | ug/L | 1000 | | 8260B | Total/NA |
| Benzene | 1500 | | 1000 | 430 | ug/L | 1000 | | 8260B | Total/NA |
| Chlorobenzene | 4100 | | 1000 | 260 | ug/L | 1000 | | 8260B | Total/NA |
| Ethylbenzene | 6900 | | 1000 | 330 | ug/L | 1000 | | 8260B | Total/NA |
| Xylenes, Total | 96000 | | 1000 | 230 | ug/L | 1000 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 990 | J | 1000 | 460 | ug/L | 1000 | | 8260B | Total/NA |

## Client Sample ID: MW-14 — Lab Sample ID: 680-123918-4

No Detections.

## Client Sample ID: MW-16 — Lab Sample ID: 680-123918-5

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

# Detection Summary

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: MW-16 (Continued) — Lab Sample ID: 680-123918-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 140 | | 2.0 | 1.0 | ug/L | 2 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 1.7 | J | 2.0 | 0.74 | ug/L | 2 | | 8260B | Total/NA |
| Benzene | 3.5 | | 2.0 | 0.86 | ug/L | 2 | | 8260B | Total/NA |
| Trichloroethene | 10 | | 2.0 | 0.96 | ug/L | 2 | | 8260B | Total/NA |
| Chlorobenzene | 17 | | 2.0 | 0.52 | ug/L | 2 | | 8260B | Total/NA |
| Ethylbenzene | 1.2 | J | 2.0 | 0.66 | ug/L | 2 | | 8260B | Total/NA |
| Xylenes, Total | 1.3 | J | 2.0 | 0.46 | ug/L | 2 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 5.5 | | 2.0 | 0.86 | ug/L | 2 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 11 | | 2.0 | 0.92 | ug/L | 2 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 1.5 | J | 2.0 | 0.74 | ug/L | 2 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene - DL | 350 | | 5.0 | 2.1 | ug/L | 5 | | 8260B | Total/NA |

## Client Sample ID: MW-17R — Lab Sample ID: 680-123918-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 14 | | 10 | 7.0 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 0.58 | J | 1.0 | 0.33 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 0.33 | J | 1.0 | 0.23 | ug/L | 1 | | 8260B | Total/NA |
| Isopropylbenzene | 39 | | 1.0 | 0.35 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-18R — Lab Sample ID: 680-123918-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 1.7 | | 1.0 | 0.60 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 0.43 | J | 1.0 | 0.36 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 0.41 | J | 1.0 | 0.38 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-19 — Lab Sample ID: 680-123918-8

No Detections.

## Client Sample ID: MW-23 — Lab Sample ID: 680-123918-9

No Detections.

## Client Sample ID: MW-24R — Lab Sample ID: 680-123918-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 140 | | 50 | 1.5 | ug/L | 5 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 400 | | 5.0 | 2.1 | ug/L | 5 | | 8260B | Total/NA |
| Benzene | 3.7 | J | 5.0 | 2.2 | ug/L | 5 | | 8260B | Total/NA |

## Client Sample ID: MW-25 — Lab Sample ID: 680-123918-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Isopropylbenzene | 0.39 | J | 1.0 | 0.35 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-26R — Lab Sample ID: 680-123918-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 8.4 | | 5.0 | 2.1 | ug/L | 5 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

## Client Sample ID: MW-26R (Continued) — Lab Sample ID: 680-123918-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 410 | | 5.0 | 2.2 | ug/L | 5 | | 8260B | Total/NA |
| Toluene | 43 | | 5.0 | 2.4 | ug/L | 5 | | 8260B | Total/NA |
| Chlorobenzene | 710 | | 5.0 | 1.3 | ug/L | 5 | | 8260B | Total/NA |
| Isopropylbenzene | 21 | | 5.0 | 1.8 | ug/L | 5 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 8.8 | | 5.0 | 2.2 | ug/L | 5 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 11 | | 5.0 | 2.3 | ug/L | 5 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 5.8 | | 5.0 | 1.9 | ug/L | 5 | | 8260B | Total/NA |
| Xylenes, Total - DL | 17000 | | 100 | 23 | ug/L | 100 | | 8260B | Total/NA |

## Client Sample ID: MW-27 — Lab Sample ID: 680-123918-13

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 4.0 | | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| Methyl tert-butyl ether | 0.85 | J | 10 | 0.30 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 2.4 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 5.8 | | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 0.60 | J | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 0.60 | J | 1.0 | 0.46 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-28 — Lab Sample ID: 680-123918-14

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 22 | | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 47 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 1.4 | | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 1.4 | | 1.0 | 0.48 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 3.9 | | 1.0 | 0.74 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 10 | | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 0.61 | J | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 3.8 | | 1.0 | 0.46 | ug/L | 1 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 0.95 | J | 1.0 | 0.37 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-29 — Lab Sample ID: 680-123918-15

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 1500 | | 100 | 50 | ug/L | 100 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 53 | J | 100 | 36 | ug/L | 100 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 18000 | | 100 | 41 | ug/L | 100 | | 8260B | Total/NA |
| Trichloroethene | 230 | | 100 | 48 | ug/L | 100 | | 8260B | Total/NA |
| Toluene | 52 | J | 100 | 48 | ug/L | 100 | | 8260B | Total/NA |
| Tetrachloroethene | 200 | | 100 | 74 | ug/L | 100 | | 8260B | Total/NA |
| Chlorobenzene | 230 | | 100 | 26 | ug/L | 100 | | 8260B | Total/NA |
| Ethylbenzene | 2500 | | 100 | 33 | ug/L | 100 | | 8260B | Total/NA |
| Xylenes, Total | 7200 | | 100 | 23 | ug/L | 100 | | 8260B | Total/NA |
| Isopropylbenzene | 69 | J | 100 | 35 | ug/L | 100 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 61 | J | 100 | 43 | ug/L | 100 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 230 | | 100 | 46 | ug/L | 100 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 51 | J | 100 | 37 | ug/L | 100 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 360 | J | 500 | 250 | ug/L | 100 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: MW-30 — Lab Sample ID: 680-123918-16

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 0.59 | J | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 0.81 | J | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 0.35 | J | 1.0 | 0.23 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-31 — Lab Sample ID: 680-123918-17

No Detections.

## Client Sample ID: MW-32 — Lab Sample ID: 680-123918-18

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Trichlorofluoromethane | 1.4 | | 1.0 | 0.42 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-33 — Lab Sample ID: 680-123918-19

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 57 | | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 0.43 | J | 1.0 | 0.36 | ug/L | 1 | | 8260B | Total/NA |
| trans-1,2-Dichloroethene | 1.6 | | 1.0 | 0.37 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 120 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 1.0 | | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 3.2 | | 1.0 | 0.48 | ug/L | 1 | | 8260B | Total/NA |
| Toluene | 1.3 | | 1.0 | 0.48 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 0.96 | J | 1.0 | 0.74 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 42 | | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |
| Ethylbenzene | 3.2 | | 1.0 | 0.33 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 10 | | 1.0 | 0.23 | ug/L | 1 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 22 | | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 76 | | 1.0 | 0.46 | ug/L | 1 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 7.1 | | 1.0 | 0.37 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 25 | | 5.0 | 2.5 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-34 — Lab Sample ID: 680-123918-20

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 5.5 | | 1.0 | 0.50 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 18 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Benzene | 2.3 | | 1.0 | 0.43 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 0.72 | J | 1.0 | 0.48 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 3.9 | | 1.0 | 0.74 | ug/L | 1 | | 8260B | Total/NA |
| Chlorobenzene | 5.7 | | 1.0 | 0.26 | ug/L | 1 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 1.3 | | 1.0 | 0.46 | ug/L | 1 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 0.38 | J | 1.0 | 0.37 | ug/L | 1 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 2.9 | J | 5.0 | 2.5 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-35 — Lab Sample ID: 680-123918-21

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 16 | | 10 | 7.0 | ug/L | 1 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: MW-36 — Lab Sample ID: 680-123918-22

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 0.49 | J | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW-37 — Lab Sample ID: 680-123918-23

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 96 | | 10 | 5.0 | ug/L | 10 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 400 | | 10 | 4.1 | ug/L | 10 | | 8260B | Total/NA |
| Benzene | 13 | | 10 | 4.3 | ug/L | 10 | | 8260B | Total/NA |
| Trichloroethene | 11 | | 10 | 4.8 | ug/L | 10 | | 8260B | Total/NA |
| Tetrachloroethene | 30 | | 10 | 7.4 | ug/L | 10 | | 8260B | Total/NA |
| Chlorobenzene | 94 | | 10 | 2.6 | ug/L | 10 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 8.8 | J | 10 | 4.3 | ug/L | 10 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 53 | | 10 | 4.6 | ug/L | 10 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 15 | | 10 | 3.7 | ug/L | 10 | | 8260B | Total/NA |
| 1,2,4-Trichlorobenzene | 110 | | 50 | 25 | ug/L | 10 | | 8260B | Total/NA |

## Client Sample ID: PAN-MW-9 — Lab Sample ID: 680-123918-24

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 250 | | 20 | 10 | ug/L | 20 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 10 | J | 20 | 7.2 | ug/L | 20 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 2300 | | 20 | 8.2 | ug/L | 20 | | 8260B | Total/NA |
| Trichloroethene | 12 | J | 20 | 9.6 | ug/L | 20 | | 8260B | Total/NA |
| Chlorobenzene | 69 | | 20 | 5.2 | ug/L | 20 | | 8260B | Total/NA |
| Ethylbenzene | 890 | | 20 | 6.6 | ug/L | 20 | | 8260B | Total/NA |
| Xylenes, Total | 2300 | | 20 | 4.6 | ug/L | 20 | | 8260B | Total/NA |
| Isopropylbenzene | 50 | | 20 | 7.0 | ug/L | 20 | | 8260B | Total/NA |
| 1,3-Dichlorobenzene | 12 | J | 20 | 8.6 | ug/L | 20 | | 8260B | Total/NA |
| 1,4-Dichlorobenzene | 48 | | 20 | 9.2 | ug/L | 20 | | 8260B | Total/NA |
| 1,2-Dichlorobenzene | 7.7 | J | 20 | 7.4 | ug/L | 20 | | 8260B | Total/NA |

## Client Sample ID: PAN-MW-10 — Lab Sample ID: 680-123918-25

No Detections.

## Client Sample ID: Trip Blank — Lab Sample ID: 680-123918-26

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: IW-1R**
**Date Collected: 04/06/16 14:56**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-1**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <120 | | 200 | 120 | ug/L | | | 04/15/16 15:11 | 200 |
| Chloromethane | <80 | | 200 | 80 | ug/L | | | 04/15/16 15:11 | 200 |
| **Vinyl chloride** | **410** | | 200 | 100 | ug/L | | | 04/15/16 15:11 | 200 |
| Bromomethane | <500 | | 1000 | 500 | ug/L | | | 04/15/16 15:11 | 200 |
| Chloroethane | <500 | | 1000 | 500 | ug/L | | | 04/15/16 15:11 | 200 |
| Trichlorofluoromethane | <84 | | 200 | 84 | ug/L | | | 04/15/16 15:11 | 200 |
| 1,1-Dichloroethene | <72 | | 200 | 72 | ug/L | | | 04/15/16 15:11 | 200 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <72 | | 200 | 72 | ug/L | | | 04/15/16 15:11 | 200 |
| Acetone | <1400 | | 2000 | 1400 | ug/L | | | 04/15/16 15:11 | 200 |
| Carbon disulfide | <200 | | 400 | 200 | ug/L | | | 04/15/16 15:11 | 200 |
| Methyl acetate | <360 | | 1000 | 360 | ug/L | | | 04/15/16 15:11 | 200 |
| Methylene Chloride | <500 | | 1000 | 500 | ug/L | | | 04/15/16 15:11 | 200 |
| trans-1,2-Dichloroethene | <74 | | 200 | 74 | ug/L | | | 04/15/16 15:11 | 200 |
| Methyl tert-butyl ether | <60 | | 2000 | 60 | ug/L | | | 04/15/16 15:11 | 200 |
| 1,1-Dichloroethane | <76 | | 200 | 76 | ug/L | | | 04/15/16 15:11 | 200 |
| **cis-1,2-Dichloroethene** | **9500** | | 200 | 82 | ug/L | | | 04/15/16 15:11 | 200 |
| 2-Butanone | <680 | | 2000 | 680 | ug/L | | | 04/15/16 15:11 | 200 |
| Chloroform | <100 | | 200 | 100 | ug/L | | | 04/15/16 15:11 | 200 |
| 1,1,1-Trichloroethane | <74 | | 200 | 74 | ug/L | | | 04/15/16 15:11 | 200 |
| Cyclohexane | <78 | | 200 | 78 | ug/L | | | 04/15/16 15:11 | 200 |
| Carbon tetrachloride | <66 | | 200 | 66 | ug/L | | | 04/15/16 15:11 | 200 |
| **Benzene** | **300** | | 200 | 86 | ug/L | | | 04/15/16 15:11 | 200 |
| 1,2-Dichloroethane | <100 | | 200 | 100 | ug/L | | | 04/15/16 15:11 | 200 |
| **Trichloroethene** | **140** | **J** | 200 | 96 | ug/L | | | 04/15/16 15:11 | 200 |
| Methylcyclohexane | <86 | | 200 | 86 | ug/L | | | 04/15/16 15:11 | 200 |
| 1,2-Dichloropropane | <130 | | 200 | 130 | ug/L | | | 04/15/16 15:11 | 200 |
| Bromodichloromethane | <88 | | 200 | 88 | ug/L | | | 04/15/16 15:11 | 200 |
| cis-1,3-Dichloropropene | <80 | | 200 | 80 | ug/L | | | 04/15/16 15:11 | 200 |
| 4-Methyl-2-pentanone | <420 | | 2000 | 420 | ug/L | | | 04/15/16 15:11 | 200 |
| **Toluene** | **190** | **J** | 200 | 96 | ug/L | | | 04/15/16 15:11 | 200 |
| trans-1,3-Dichloropropene | <84 | | 200 | 84 | ug/L | | | 04/15/16 15:11 | 200 |
| 1,1,2-Trichloroethane | <66 | | 200 | 66 | ug/L | | | 04/15/16 15:11 | 200 |
| **Tetrachloroethene** | **300** | | 200 | 150 | ug/L | | | 04/15/16 15:11 | 200 |
| 2-Hexanone | <400 | | 2000 | 400 | ug/L | | | 04/15/16 15:11 | 200 |
| Dibromochloromethane | <64 | | 200 | 64 | ug/L | | | 04/15/16 15:11 | 200 |
| 1,2-Dibromoethane | <88 | | 200 | 88 | ug/L | | | 04/15/16 15:11 | 200 |
| **Chlorobenzene** | **1400** | | 200 | 52 | ug/L | | | 04/15/16 15:11 | 200 |
| **Ethylbenzene** | **3000** | | 200 | 66 | ug/L | | | 04/15/16 15:11 | 200 |
| **Xylenes, Total** | **22000** | | 200 | 46 | ug/L | | | 04/15/16 15:11 | 200 |
| Styrene | <54 | | 200 | 54 | ug/L | | | 04/15/16 15:11 | 200 |
| Bromoform | <86 | | 200 | 86 | ug/L | | | 04/15/16 15:11 | 200 |
| Isopropylbenzene | <70 | | 200 | 70 | ug/L | | | 04/15/16 15:11 | 200 |
| 1,1,2,2-Tetrachloroethane | <120 | | 200 | 120 | ug/L | | | 04/15/16 15:11 | 200 |
| **1,3-Dichlorobenzene** | **150** | **J** | 200 | 86 | ug/L | | | 04/15/16 15:11 | 200 |
| **1,4-Dichlorobenzene** | **1100** | | 200 | 92 | ug/L | | | 04/15/16 15:11 | 200 |
| **1,2-Dichlorobenzene** | **230** | | 200 | 74 | ug/L | | | 04/15/16 15:11 | 200 |
| 1,2-Dibromo-3-Chloropropane | <220 | | 1000 | 220 | ug/L | | | 04/15/16 15:11 | 200 |
| **1,2,4-Trichlorobenzene** | **1400** | | 1000 | 500 | ug/L | | | 04/15/16 15:11 | 200 |

## Client Sample ID: IW-1R

**Date Collected: 04/06/16 14:56**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-1

**Matrix: Water**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *96* | | *70 - 130* | | *04/15/16 15:11* | *200* |
| *1,2-Dichloroethane-d4 (Surr)* | *110* | | *70 - 130* | | *04/15/16 15:11* | *200* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* | | *04/15/16 15:11* | *200* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *04/15/16 15:11* | *200* |

## Client Sample ID: IW-18

**Date Collected: 04/07/16 16:04**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-2

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <15 | | 25 | 15 | ug/L | | | 04/18/16 16:39 | 25 |
| Chloromethane | <10 | | 25 | 10 | ug/L | | | 04/18/16 16:39 | 25 |
| **Vinyl chloride** | **1000** | | 25 | 13 | ug/L | | | 04/18/16 16:39 | 25 |
| Bromomethane | <63 | | 130 | 63 | ug/L | | | 04/18/16 16:39 | 25 |
| Chloroethane | <63 | | 130 | 63 | ug/L | | | 04/18/16 16:39 | 25 |
| Trichlorofluoromethane | <11 | | 25 | 11 | ug/L | | | 04/18/16 16:39 | 25 |
| 1,1-Dichloroethene | <9.0 | | 25 | 9.0 | ug/L | | | 04/18/16 16:39 | 25 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <9.0 | | 25 | 9.0 | ug/L | | | 04/18/16 16:39 | 25 |
| **Acetone** | **240** | **J** | 250 | 180 | ug/L | | | 04/18/16 16:39 | 25 |
| Carbon disulfide | <25 | | 50 | 25 | ug/L | | | 04/18/16 16:39 | 25 |
| Methyl acetate | <45 | | 130 | 45 | ug/L | | | 04/18/16 16:39 | 25 |
| Methylene Chloride | <63 | | 130 | 63 | ug/L | | | 04/18/16 16:39 | 25 |
| **trans-1,2-Dichloroethene** | **13** | **J** | 25 | 9.3 | ug/L | | | 04/18/16 16:39 | 25 |
| Methyl tert-butyl ether | <7.5 | | 250 | 7.5 | ug/L | | | 04/18/16 16:39 | 25 |
| 1,1-Dichloroethane | <9.5 | | 25 | 9.5 | ug/L | | | 04/18/16 16:39 | 25 |
| **cis-1,2-Dichloroethene** | **4600** | | 25 | 10 | ug/L | | | 04/18/16 16:39 | 25 |
| 2-Butanone | <85 | | 250 | 85 | ug/L | | | 04/18/16 16:39 | 25 |
| Chloroform | <13 | | 25 | 13 | ug/L | | | 04/18/16 16:39 | 25 |
| 1,1,1-Trichloroethane | <9.3 | | 25 | 9.3 | ug/L | | | 04/18/16 16:39 | 25 |
| Cyclohexane | <9.8 | | 25 | 9.8 | ug/L | | | 04/18/16 16:39 | 25 |
| Carbon tetrachloride | <8.3 | | 25 | 8.3 | ug/L | | | 04/18/16 16:39 | 25 |
| **Benzene** | **230** | | 25 | 11 | ug/L | | | 04/18/16 16:39 | 25 |
| 1,2-Dichloroethane | <13 | | 25 | 13 | ug/L | | | 04/18/16 16:39 | 25 |
| **Trichloroethene** | **110** | | 25 | 12 | ug/L | | | 04/18/16 16:39 | 25 |
| Methylcyclohexane | <11 | | 25 | 11 | ug/L | | | 04/18/16 16:39 | 25 |
| 1,2-Dichloropropane | <17 | | 25 | 17 | ug/L | | | 04/18/16 16:39 | 25 |
| Bromodichloromethane | <11 | | 25 | 11 | ug/L | | | 04/18/16 16:39 | 25 |
| cis-1,3-Dichloropropene | <10 | | 25 | 10 | ug/L | | | 04/18/16 16:39 | 25 |
| 4-Methyl-2-pentanone | <53 | | 250 | 53 | ug/L | | | 04/18/16 16:39 | 25 |
| **Toluene** | **120** | | 25 | 12 | ug/L | | | 04/18/16 16:39 | 25 |
| trans-1,3-Dichloropropene | <11 | | 25 | 11 | ug/L | | | 04/18/16 16:39 | 25 |
| 1,1,2-Trichloroethane | <8.3 | | 25 | 8.3 | ug/L | | | 04/18/16 16:39 | 25 |
| **Tetrachloroethene** | **180** | | 25 | 19 | ug/L | | | 04/18/16 16:39 | 25 |
| 2-Hexanone | <50 | | 250 | 50 | ug/L | | | 04/18/16 16:39 | 25 |
| Dibromochloromethane | <8.0 | | 25 | 8.0 | ug/L | | | 04/18/16 16:39 | 25 |
| 1,2-Dibromoethane | <11 | | 25 | 11 | ug/L | | | 04/18/16 16:39 | 25 |
| **Chlorobenzene** | **730** | | 25 | 6.5 | ug/L | | | 04/18/16 16:39 | 25 |
| **Ethylbenzene** | **1100** | | 25 | 8.3 | ug/L | | | 04/18/16 16:39 | 25 |
| Styrene | <6.8 | | 25 | 6.8 | ug/L | | | 04/18/16 16:39 | 25 |

## Client Sample ID: IW-18

**Date Collected: 04/07/16 16:04**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-2**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Bromoform | <11 | | 25 | 11 | ug/L | | | 04/18/16 16:39 | 25 |
| **Isopropylbenzene** | **18** | **J** | 25 | 8.8 | ug/L | | | 04/18/16 16:39 | 25 |
| 1,1,2,2-Tetrachloroethane | <16 | | 25 | 16 | ug/L | | | 04/18/16 16:39 | 25 |
| **1,3-Dichlorobenzene** | **31** | | 25 | 11 | ug/L | | | 04/18/16 16:39 | 25 |
| **1,4-Dichlorobenzene** | **190** | | 25 | 12 | ug/L | | | 04/18/16 16:39 | 25 |
| **1,2-Dichlorobenzene** | **62** | | 25 | 9.3 | ug/L | | | 04/18/16 16:39 | 25 |
| 1,2-Dibromo-3-Chloropropane | <28 | | 130 | 28 | ug/L | | | 04/18/16 16:39 | 25 |
| **1,2,4-Trichlorobenzene** | **380** | | 130 | 63 | ug/L | | | 04/18/16 16:39 | 25 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *96* | | *70 - 130* | | *04/18/16 16:39* | *25* |
| *1,2-Dichloroethane-d4 (Surr)* | *106* | | *70 - 130* | | *04/18/16 16:39* | *25* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* | | *04/18/16 16:39* | *25* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *04/18/16 16:39* | *25* |

### Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Xylenes, Total** | **14000** | | 100 | 23 | ug/L | | | 04/19/16 13:25 | 100 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *108* | | *70 - 130* | | *04/19/16 13:25* | *100* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 130* | | *04/19/16 13:25* | *100* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* | | *04/19/16 13:25* | *100* |
| *4-Bromofluorobenzene (Surr)* | *114* | | *70 - 130* | | *04/19/16 13:25* | *100* |

## Client Sample ID: LAW-PZ-8R

**Date Collected: 04/06/16 17:20**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-3**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <600 | | 1000 | 600 | ug/L | | | 04/15/16 15:32 | 1000 |
| Chloromethane | <400 | | 1000 | 400 | ug/L | | | 04/15/16 15:32 | 1000 |
| Vinyl chloride | <500 | | 1000 | 500 | ug/L | | | 04/15/16 15:32 | 1000 |
| Bromomethane | <2500 | | 5000 | 2500 | ug/L | | | 04/15/16 15:32 | 1000 |
| Chloroethane | <2500 | | 5000 | 2500 | ug/L | | | 04/15/16 15:32 | 1000 |
| Trichlorofluoromethane | <420 | | 1000 | 420 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,1-Dichloroethene | <360 | | 1000 | 360 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <360 | | 1000 | 360 | ug/L | | | 04/15/16 15:32 | 1000 |
| Acetone | <7000 | | 10000 | 7000 | ug/L | | | 04/15/16 15:32 | 1000 |
| Carbon disulfide | <1000 | | 2000 | 1000 | ug/L | | | 04/15/16 15:32 | 1000 |
| Methyl acetate | <1800 | | 5000 | 1800 | ug/L | | | 04/15/16 15:32 | 1000 |
| Methylene Chloride | <2500 | | 5000 | 2500 | ug/L | | | 04/15/16 15:32 | 1000 |
| trans-1,2-Dichloroethene | <370 | | 1000 | 370 | ug/L | | | 04/15/16 15:32 | 1000 |
| Methyl tert-butyl ether | <300 | | 10000 | 300 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,1-Dichloroethane | <380 | | 1000 | 380 | ug/L | | | 04/15/16 15:32 | 1000 |
| **cis-1,2-Dichloroethene** | **5200** | | 1000 | 410 | ug/L | | | 04/15/16 15:32 | 1000 |
| 2-Butanone | <3400 | | 10000 | 3400 | ug/L | | | 04/15/16 15:32 | 1000 |
| Chloroform | <500 | | 1000 | 500 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,1,1-Trichloroethane | <370 | | 1000 | 370 | ug/L | | | 04/15/16 15:32 | 1000 |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: LAW-PZ-8R

**Date Collected: 04/06/16 17:20**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-3

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Cyclohexane | <390 | | 1000 | 390 | ug/L | | | 04/15/16 15:32 | 1000 |
| Carbon tetrachloride | <330 | | 1000 | 330 | ug/L | | | 04/15/16 15:32 | 1000 |
| **Benzene** | **1500** | | 1000 | 430 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,2-Dichloroethane | <500 | | 1000 | 500 | ug/L | | | 04/15/16 15:32 | 1000 |
| Trichloroethene | <480 | | 1000 | 480 | ug/L | | | 04/15/16 15:32 | 1000 |
| Methylcyclohexane | <430 | | 1000 | 430 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,2-Dichloropropane | <670 | | 1000 | 670 | ug/L | | | 04/15/16 15:32 | 1000 |
| Bromodichloromethane | <440 | | 1000 | 440 | ug/L | | | 04/15/16 15:32 | 1000 |
| cis-1,3-Dichloropropene | <400 | | 1000 | 400 | ug/L | | | 04/15/16 15:32 | 1000 |
| 4-Methyl-2-pentanone | <2100 | | 10000 | 2100 | ug/L | | | 04/15/16 15:32 | 1000 |
| Toluene | <480 | | 1000 | 480 | ug/L | | | 04/15/16 15:32 | 1000 |
| trans-1,3-Dichloropropene | <420 | | 1000 | 420 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,1,2-Trichloroethane | <330 | | 1000 | 330 | ug/L | | | 04/15/16 15:32 | 1000 |
| Tetrachloroethene | <740 | | 1000 | 740 | ug/L | | | 04/15/16 15:32 | 1000 |
| 2-Hexanone | <2000 | | 10000 | 2000 | ug/L | | | 04/15/16 15:32 | 1000 |
| Dibromochloromethane | <320 | | 1000 | 320 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,2-Dibromoethane | <440 | | 1000 | 440 | ug/L | | | 04/15/16 15:32 | 1000 |
| **Chlorobenzene** | **4100** | | 1000 | 260 | ug/L | | | 04/15/16 15:32 | 1000 |
| **Ethylbenzene** | **6900** | | 1000 | 330 | ug/L | | | 04/15/16 15:32 | 1000 |
| **Xylenes, Total** | **96000** | | 1000 | 230 | ug/L | | | 04/15/16 15:32 | 1000 |
| Styrene | <270 | | 1000 | 270 | ug/L | | | 04/15/16 15:32 | 1000 |
| Bromoform | <430 | | 1000 | 430 | ug/L | | | 04/15/16 15:32 | 1000 |
| Isopropylbenzene | <350 | | 1000 | 350 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,1,2,2-Tetrachloroethane | <620 | | 1000 | 620 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,3-Dichlorobenzene | <430 | | 1000 | 430 | ug/L | | | 04/15/16 15:32 | 1000 |
| **1,4-Dichlorobenzene** | **990** | **J** | 1000 | 460 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,2-Dichlorobenzene | <370 | | 1000 | 370 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,2-Dibromo-3-Chloropropane | <1100 | | 5000 | 1100 | ug/L | | | 04/15/16 15:32 | 1000 |
| 1,2,4-Trichlorobenzene | <2500 | | 5000 | 2500 | ug/L | | | 04/15/16 15:32 | 1000 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* | | *04/15/16 15:32* | *1000* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* | | *04/15/16 15:32* | *1000* |
| *Dibromofluoromethane (Surr)* | *101* | | *70 - 130* | | *04/15/16 15:32* | *1000* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *04/15/16 15:32* | *1000* |

## Client Sample ID: MW-14

**Date Collected: 04/05/16 17:06**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-4

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/18/16 12:25 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 12:25 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 12:25 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 12:25 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 12:25 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 12:25 | 1 |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: MW-14**
**Date Collected: 04/05/16 17:06**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-4**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/18/16 12:25 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/18/16 12:25 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/18/16 12:25 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 12:25 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 12:25 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/18/16 12:25 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/18/16 12:25 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/18/16 12:25 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 12:25 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/18/16 12:25 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 12:25 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 12:25 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 12:25 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/18/16 12:25 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 12:25 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 12:25 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/18/16 12:25 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 12:25 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 12:25 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/18/16 12:25 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/18/16 12:25 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 12:25 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/18/16 12:25 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 12:25 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/18/16 12:25 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/18/16 12:25 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 12:25 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/18/16 12:25 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 12:25 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/18/16 12:25* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *91* | | *70 - 130* | | *04/18/16 12:25* | *1* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* | | *04/18/16 12:25* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *04/18/16 12:25* | *1* |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: MW-16**
**Date Collected: 04/05/16 11:03**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-5**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <1.2 | | 2.0 | 1.2 | ug/L | | | 04/15/16 15:53 | 2 |
| Chloromethane | <0.80 | | 2.0 | 0.80 | ug/L | | | 04/15/16 15:53 | 2 |
| **Vinyl chloride** | **140** | | 2.0 | 1.0 | ug/L | | | 04/15/16 15:53 | 2 |
| Bromomethane | <5.0 | | 10 | 5.0 | ug/L | | | 04/15/16 15:53 | 2 |
| Chloroethane | <5.0 | | 10 | 5.0 | ug/L | | | 04/15/16 15:53 | 2 |
| Trichlorofluoromethane | <0.84 | | 2.0 | 0.84 | ug/L | | | 04/15/16 15:53 | 2 |
| 1,1-Dichloroethene | <0.72 | | 2.0 | 0.72 | ug/L | | | 04/15/16 15:53 | 2 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.72 | | 2.0 | 0.72 | ug/L | | | 04/15/16 15:53 | 2 |
| Acetone | <14 | | 20 | 14 | ug/L | | | 04/15/16 15:53 | 2 |
| Carbon disulfide | <2.0 | | 4.0 | 2.0 | ug/L | | | 04/15/16 15:53 | 2 |
| Methyl acetate | <3.6 | | 10 | 3.6 | ug/L | | | 04/15/16 15:53 | 2 |
| Methylene Chloride | <5.0 | | 10 | 5.0 | ug/L | | | 04/15/16 15:53 | 2 |
| **trans-1,2-Dichloroethene** | **1.7** | **J** | 2.0 | 0.74 | ug/L | | | 04/15/16 15:53 | 2 |
| Methyl tert-butyl ether | <0.60 | | 20 | 0.60 | ug/L | | | 04/15/16 15:53 | 2 |
| 1,1-Dichloroethane | <0.76 | | 2.0 | 0.76 | ug/L | | | 04/15/16 15:53 | 2 |
| 2-Butanone | <6.8 | | 20 | 6.8 | ug/L | | | 04/15/16 15:53 | 2 |
| Chloroform | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/15/16 15:53 | 2 |
| 1,1,1-Trichloroethane | <0.74 | | 2.0 | 0.74 | ug/L | | | 04/15/16 15:53 | 2 |
| Cyclohexane | <0.78 | | 2.0 | 0.78 | ug/L | | | 04/15/16 15:53 | 2 |
| Carbon tetrachloride | <0.66 | | 2.0 | 0.66 | ug/L | | | 04/15/16 15:53 | 2 |
| **Benzene** | **3.5** | | 2.0 | 0.86 | ug/L | | | 04/15/16 15:53 | 2 |
| 1,2-Dichloroethane | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/15/16 15:53 | 2 |
| **Trichloroethene** | **10** | | 2.0 | 0.96 | ug/L | | | 04/15/16 15:53 | 2 |
| Methylcyclohexane | <0.86 | | 2.0 | 0.86 | ug/L | | | 04/15/16 15:53 | 2 |
| 1,2-Dichloropropane | <1.3 | | 2.0 | 1.3 | ug/L | | | 04/15/16 15:53 | 2 |
| Bromodichloromethane | <0.88 | | 2.0 | 0.88 | ug/L | | | 04/15/16 15:53 | 2 |
| cis-1,3-Dichloropropene | <0.80 | | 2.0 | 0.80 | ug/L | | | 04/15/16 15:53 | 2 |
| 4-Methyl-2-pentanone | <4.2 | | 20 | 4.2 | ug/L | | | 04/15/16 15:53 | 2 |
| Toluene | <0.96 | | 2.0 | 0.96 | ug/L | | | 04/15/16 15:53 | 2 |
| trans-1,3-Dichloropropene | <0.84 | | 2.0 | 0.84 | ug/L | | | 04/15/16 15:53 | 2 |
| 1,1,2-Trichloroethane | <0.66 | | 2.0 | 0.66 | ug/L | | | 04/15/16 15:53 | 2 |
| Tetrachloroethene | <1.5 | | 2.0 | 1.5 | ug/L | | | 04/15/16 15:53 | 2 |
| 2-Hexanone | <4.0 | | 20 | 4.0 | ug/L | | | 04/15/16 15:53 | 2 |
| Dibromochloromethane | <0.64 | | 2.0 | 0.64 | ug/L | | | 04/15/16 15:53 | 2 |
| 1,2-Dibromoethane | <0.88 | | 2.0 | 0.88 | ug/L | | | 04/15/16 15:53 | 2 |
| **Chlorobenzene** | **17** | | 2.0 | 0.52 | ug/L | | | 04/15/16 15:53 | 2 |
| **Ethylbenzene** | **1.2** | **J** | 2.0 | 0.66 | ug/L | | | 04/15/16 15:53 | 2 |
| **Xylenes, Total** | **1.3** | **J** | 2.0 | 0.46 | ug/L | | | 04/15/16 15:53 | 2 |
| Styrene | <0.54 | | 2.0 | 0.54 | ug/L | | | 04/15/16 15:53 | 2 |
| Bromoform | <0.86 | | 2.0 | 0.86 | ug/L | | | 04/15/16 15:53 | 2 |
| Isopropylbenzene | <0.70 | | 2.0 | 0.70 | ug/L | | | 04/15/16 15:53 | 2 |
| 1,1,2,2-Tetrachloroethane | <1.2 | | 2.0 | 1.2 | ug/L | | | 04/15/16 15:53 | 2 |
| **1,3-Dichlorobenzene** | **5.5** | | 2.0 | 0.86 | ug/L | | | 04/15/16 15:53 | 2 |
| **1,4-Dichlorobenzene** | **11** | | 2.0 | 0.92 | ug/L | | | 04/15/16 15:53 | 2 |
| **1,2-Dichlorobenzene** | **1.5** | **J** | 2.0 | 0.74 | ug/L | | | 04/15/16 15:53 | 2 |
| 1,2-Dibromo-3-Chloropropane | <2.2 | | 10 | 2.2 | ug/L | | | 04/15/16 15:53 | 2 |
| 1,2,4-Trichlorobenzene | <5.0 | | 10 | 5.0 | ug/L | | | 04/15/16 15:53 | 2 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *92* | | *70 - 130* | | *04/15/16 15:53* | *2* |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: MW-16

**Lab Sample ID: 680-123918-5**

**Date Collected: 04/05/16 11:03**

**Matrix: Water**

**Date Received: 04/08/16 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *125* | | *70 - 130* | | *04/15/16 15:53* | *2* |
| *Dibromofluoromethane (Surr)* | *110* | | *70 - 130* | | *04/15/16 15:53* | *2* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *04/15/16 15:53* | *2* |

### Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **cis-1,2-Dichloroethene** | **350** | | 5.0 | 2.1 | ug/L | | | 04/18/16 13:04 | 5 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *93* | | *70 - 130* | | *04/18/16 13:04* | *5* |
| *1,2-Dichloroethane-d4 (Surr)* | *114* | | *70 - 130* | | *04/18/16 13:04* | *5* |
| *Dibromofluoromethane (Surr)* | *107* | | *70 - 130* | | *04/18/16 13:04* | *5* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | | *04/18/16 13:04* | *5* |

## Client Sample ID: MW-17R

**Lab Sample ID: 680-123918-6**

**Date Collected: 04/07/16 12:29**

**Matrix: Water**

**Date Received: 04/08/16 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/19/16 12:43 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/19/16 12:43 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/19/16 12:43 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/19/16 12:43 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/19/16 12:43 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/19/16 12:43 | 1 |
| **Acetone** | **14** | | 10 | 7.0 | ug/L | | | 04/19/16 12:43 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/19/16 12:43 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/19/16 12:43 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/19/16 12:43 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/19/16 12:43 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/19/16 12:43 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/19/16 12:43 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/19/16 12:43 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/19/16 12:43 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/19/16 12:43 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/19/16 12:43 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/19/16 12:43 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/19/16 12:43 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/19/16 12:43 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/19/16 12:43 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/19/16 12:43 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/19/16 12:43 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/19/16 12:43 | 1 |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: MW-17R

**Lab Sample ID: 680-123918-6**

**Date Collected: 04/07/16 12:29**
**Date Received: 04/08/16 08:30**

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/19/16 12:43 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/19/16 12:43 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/19/16 12:43 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/19/16 12:43 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/19/16 12:43 | 1 |
| **Ethylbenzene** | **0.58** | **J** | 1.0 | 0.33 | ug/L | | | 04/19/16 12:43 | 1 |
| **Xylenes, Total** | **0.33** | **J** | 1.0 | 0.23 | ug/L | | | 04/19/16 12:43 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/19/16 12:43 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/19/16 12:43 | 1 |
| **Isopropylbenzene** | **39** | | 1.0 | 0.35 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/19/16 12:43 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/19/16 12:43 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *87* | | *70 - 130* | | *04/19/16 12:43* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 130* | | *04/19/16 12:43* | *1* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* | | *04/19/16 12:43* | *1* |
| *4-Bromofluorobenzene (Surr)* | *112* | | *70 - 130* | | *04/19/16 12:43* | *1* |

## Client Sample ID: MW-18R

**Lab Sample ID: 680-123918-7**

**Date Collected: 04/05/16 12:45**
**Date Received: 04/08/16 08:30**

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Dichlorodifluoromethane** | **1.7** | | 1.0 | 0.60 | ug/L | | | 04/18/16 12:04 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 12:04 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 12:04 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 12:04 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 12:04 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 12:04 | 1 |
| **1,1-Dichloroethene** | **0.43** | **J** | 1.0 | 0.36 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 12:04 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/18/16 12:04 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/18/16 12:04 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/18/16 12:04 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 12:04 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 12:04 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/18/16 12:04 | 1 |
| **1,1-Dichloroethane** | **0.41** | **J** | 1.0 | 0.38 | ug/L | | | 04/18/16 12:04 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/18/16 12:04 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/18/16 12:04 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 12:04 | 1 |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: MW-18R

**Date Collected: 04/05/16 12:45**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-7

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/18/16 12:04 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 12:04 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 12:04 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 12:04 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/18/16 12:04 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 12:04 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 12:04 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/18/16 12:04 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 12:04 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 12:04 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/18/16 12:04 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/18/16 12:04 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 12:04 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/18/16 12:04 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 12:04 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/18/16 12:04 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/18/16 12:04 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 12:04 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/18/16 12:04 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 12:04 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *04/18/16 12:04* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *70 - 130* | | *04/18/16 12:04* | *1* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* | | *04/18/16 12:04* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *04/18/16 12:04* | *1* |

## Client Sample ID: MW-19

**Date Collected: 04/04/16 16:31**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-8

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/14/16 21:02 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 21:02 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 21:02 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:02 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:02 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 21:02 | 1 |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: MW-19**
**Date Collected: 04/04/16 16:31**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-8**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/14/16 21:02 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/14/16 21:02 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/14/16 21:02 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:02 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 21:02 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/14/16 21:02 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/14/16 21:02 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/14/16 21:02 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 21:02 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/14/16 21:02 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 21:02 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 21:02 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 21:02 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/14/16 21:02 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 21:02 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 21:02 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/14/16 21:02 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 21:02 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 21:02 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/14/16 21:02 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/14/16 21:02 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 21:02 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/14/16 21:02 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 21:02 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/14/16 21:02 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/14/16 21:02 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:02 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/14/16 21:02 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:02 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/14/16 21:02* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* | | *04/14/16 21:02* | *1* |
| *Dibromofluoromethane (Surr)* | *96* | | *70 - 130* | | *04/14/16 21:02* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *04/14/16 21:02* | *1* |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: MW-23**
**Date Collected: 04/04/16 15:30**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-9**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/14/16 21:23 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 21:23 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 21:23 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:23 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:23 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 21:23 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/14/16 21:23 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/14/16 21:23 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/14/16 21:23 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:23 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 21:23 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/14/16 21:23 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/14/16 21:23 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/14/16 21:23 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 21:23 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/14/16 21:23 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 21:23 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 21:23 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 21:23 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/14/16 21:23 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 21:23 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 21:23 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/14/16 21:23 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 21:23 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 21:23 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/14/16 21:23 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/14/16 21:23 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 21:23 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/14/16 21:23 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 21:23 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/14/16 21:23 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/14/16 21:23 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:23 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/14/16 21:23 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:23 | 1 |

## Client Sample ID: MW-23

**Date Collected: 04/04/16 15:30**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-9**
**Matrix: Water**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *111* | | *70 - 130* | | *04/14/16 21:23* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *70 - 130* | | *04/14/16 21:23* | *1* |
| *Dibromofluoromethane (Surr)* | *95* | | *70 - 130* | | *04/14/16 21:23* | *1* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* | | *04/14/16 21:23* | *1* |

## Client Sample ID: MW-24R

**Date Collected: 04/05/16 16:02**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-10**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <3.0 | | 5.0 | 3.0 | ug/L | | | 04/15/16 16:14 | 5 |
| Chloromethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 04/15/16 16:14 | 5 |
| Vinyl chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 16:14 | 5 |
| Bromomethane | <13 | | 25 | 13 | ug/L | | | 04/15/16 16:14 | 5 |
| Chloroethane | <13 | | 25 | 13 | ug/L | | | 04/15/16 16:14 | 5 |
| Trichlorofluoromethane | <2.1 | | 5.0 | 2.1 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,1-Dichloroethene | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/15/16 16:14 | 5 |
| Acetone | <35 | | 50 | 35 | ug/L | | | 04/15/16 16:14 | 5 |
| Carbon disulfide | <5.0 | | 10 | 5.0 | ug/L | | | 04/15/16 16:14 | 5 |
| Methyl acetate | <9.0 | | 25 | 9.0 | ug/L | | | 04/15/16 16:14 | 5 |
| Methylene Chloride | <13 | | 25 | 13 | ug/L | | | 04/15/16 16:14 | 5 |
| trans-1,2-Dichloroethene | <1.9 | | 5.0 | 1.9 | ug/L | | | 04/15/16 16:14 | 5 |
| **Methyl tert-butyl ether** | **140** | | 50 | 1.5 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,1-Dichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 04/15/16 16:14 | 5 |
| **cis-1,2-Dichloroethene** | **400** | | 5.0 | 2.1 | ug/L | | | 04/15/16 16:14 | 5 |
| 2-Butanone | <17 | | 50 | 17 | ug/L | | | 04/15/16 16:14 | 5 |
| Chloroform | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,1,1-Trichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 04/15/16 16:14 | 5 |
| Cyclohexane | <2.0 | | 5.0 | 2.0 | ug/L | | | 04/15/16 16:14 | 5 |
| Carbon tetrachloride | <1.7 | | 5.0 | 1.7 | ug/L | | | 04/15/16 16:14 | 5 |
| **Benzene** | **3.7** | **J** | 5.0 | 2.2 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,2-Dichloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 16:14 | 5 |
| Trichloroethene | <2.4 | | 5.0 | 2.4 | ug/L | | | 04/15/16 16:14 | 5 |
| Methylcyclohexane | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,2-Dichloropropane | <3.4 | | 5.0 | 3.4 | ug/L | | | 04/15/16 16:14 | 5 |
| Bromodichloromethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/15/16 16:14 | 5 |
| cis-1,3-Dichloropropene | <2.0 | | 5.0 | 2.0 | ug/L | | | 04/15/16 16:14 | 5 |
| 4-Methyl-2-pentanone | <11 | | 50 | 11 | ug/L | | | 04/15/16 16:14 | 5 |
| Toluene | <2.4 | | 5.0 | 2.4 | ug/L | | | 04/15/16 16:14 | 5 |
| trans-1,3-Dichloropropene | <2.1 | | 5.0 | 2.1 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,1,2-Trichloroethane | <1.7 | | 5.0 | 1.7 | ug/L | | | 04/15/16 16:14 | 5 |
| Tetrachloroethene | <3.7 | | 5.0 | 3.7 | ug/L | | | 04/15/16 16:14 | 5 |
| 2-Hexanone | <10 | | 50 | 10 | ug/L | | | 04/15/16 16:14 | 5 |
| Dibromochloromethane | <1.6 | | 5.0 | 1.6 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,2-Dibromoethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/15/16 16:14 | 5 |
| Chlorobenzene | <1.3 | | 5.0 | 1.3 | ug/L | | | 04/15/16 16:14 | 5 |
| Ethylbenzene | <1.7 | | 5.0 | 1.7 | ug/L | | | 04/15/16 16:14 | 5 |
| Xylenes, Total | <1.2 | | 5.0 | 1.2 | ug/L | | | 04/15/16 16:14 | 5 |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: MW-24R

**Date Collected: 04/05/16 16:02**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-10

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <1.4 | | 5.0 | 1.4 | ug/L | | | 04/15/16 16:14 | 5 |
| Bromoform | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/15/16 16:14 | 5 |
| Isopropylbenzene | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,1,2,2-Tetrachloroethane | <3.1 | | 5.0 | 3.1 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,3-Dichlorobenzene | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,4-Dichlorobenzene | <2.3 | | 5.0 | 2.3 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,2-Dichlorobenzene | <1.9 | | 5.0 | 1.9 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,2-Dibromo-3-Chloropropane | <5.5 | | 25 | 5.5 | ug/L | | | 04/15/16 16:14 | 5 |
| 1,2,4-Trichlorobenzene | <13 | | 25 | 13 | ug/L | | | 04/15/16 16:14 | 5 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *95* | | *70 - 130* | | *04/15/16 16:14* | *5* |
| *1,2-Dichloroethane-d4 (Surr)* | *119* | | *70 - 130* | | *04/15/16 16:14* | *5* |
| *Dibromofluoromethane (Surr)* | *108* | | *70 - 130* | | *04/15/16 16:14* | *5* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *04/15/16 16:14* | *5* |

## Client Sample ID: MW-25

**Date Collected: 04/04/16 17:14**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-11

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/14/16 21:44 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 21:44 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 21:44 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:44 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:44 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 21:44 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/14/16 21:44 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/14/16 21:44 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/14/16 21:44 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:44 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 21:44 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/14/16 21:44 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/14/16 21:44 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/14/16 21:44 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 21:44 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/14/16 21:44 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 21:44 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 21:44 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 21:44 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/14/16 21:44 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 21:44 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 21:44 | 1 |

## Client Sample ID: MW-25

**Date Collected: 04/04/16 17:14**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-11**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/14/16 21:44 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 21:44 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 21:44 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/14/16 21:44 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/14/16 21:44 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 21:44 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/14/16 21:44 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 21:44 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/14/16 21:44 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/14/16 21:44 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:44 | 1 |
| **Isopropylbenzene** | **0.39** | **J** | 1.0 | 0.35 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/14/16 21:44 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 21:44 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *111* | | *70 - 130* | | *04/14/16 21:44* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *70 - 130* | | *04/14/16 21:44* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* | | *04/14/16 21:44* | *1* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | | *04/14/16 21:44* | *1* |

## Client Sample ID: MW-26R

**Date Collected: 04/06/16 13:58**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-12**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <3.0 | | 5.0 | 3.0 | ug/L | | | 04/15/16 16:35 | 5 |
| Chloromethane | <2.0 | | 5.0 | 2.0 | ug/L | | | 04/15/16 16:35 | 5 |
| Vinyl chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 16:35 | 5 |
| Bromomethane | <13 | | 25 | 13 | ug/L | | | 04/15/16 16:35 | 5 |
| Chloroethane | <13 | | 25 | 13 | ug/L | | | 04/15/16 16:35 | 5 |
| Trichlorofluoromethane | <2.1 | | 5.0 | 2.1 | ug/L | | | 04/15/16 16:35 | 5 |
| 1,1-Dichloroethene | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/15/16 16:35 | 5 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/15/16 16:35 | 5 |
| Acetone | <35 | | 50 | 35 | ug/L | | | 04/15/16 16:35 | 5 |
| Carbon disulfide | <5.0 | | 10 | 5.0 | ug/L | | | 04/15/16 16:35 | 5 |
| Methyl acetate | <9.0 | | 25 | 9.0 | ug/L | | | 04/15/16 16:35 | 5 |
| Methylene Chloride | <13 | | 25 | 13 | ug/L | | | 04/15/16 16:35 | 5 |
| trans-1,2-Dichloroethene | <1.9 | | 5.0 | 1.9 | ug/L | | | 04/15/16 16:35 | 5 |
| Methyl tert-butyl ether | <1.5 | | 50 | 1.5 | ug/L | | | 04/15/16 16:35 | 5 |
| 1,1-Dichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 04/15/16 16:35 | 5 |
| **cis-1,2-Dichloroethene** | **8.4** | | 5.0 | 2.1 | ug/L | | | 04/15/16 16:35 | 5 |
| 2-Butanone | <17 | | 50 | 17 | ug/L | | | 04/15/16 16:35 | 5 |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: MW-26R**
**Date Collected: 04/06/16 13:58**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-12**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 16:35 | 5 |
| 1,1,1-Trichloroethane | <1.9 | | 5.0 | 1.9 | ug/L | | | 04/15/16 16:35 | 5 |
| Cyclohexane | <2.0 | | 5.0 | 2.0 | ug/L | | | 04/15/16 16:35 | 5 |
| Carbon tetrachloride | <1.7 | | 5.0 | 1.7 | ug/L | | | 04/15/16 16:35 | 5 |
| **Benzene** | **410** | | 5.0 | 2.2 | ug/L | | | 04/15/16 16:35 | 5 |
| 1,2-Dichloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 16:35 | 5 |
| Trichloroethene | <2.4 | | 5.0 | 2.4 | ug/L | | | 04/15/16 16:35 | 5 |
| Methylcyclohexane | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/15/16 16:35 | 5 |
| 1,2-Dichloropropane | <3.4 | | 5.0 | 3.4 | ug/L | | | 04/15/16 16:35 | 5 |
| Bromodichloromethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/15/16 16:35 | 5 |
| cis-1,3-Dichloropropene | <2.0 | | 5.0 | 2.0 | ug/L | | | 04/15/16 16:35 | 5 |
| 4-Methyl-2-pentanone | <11 | | 50 | 11 | ug/L | | | 04/15/16 16:35 | 5 |
| **Toluene** | **43** | | 5.0 | 2.4 | ug/L | | | 04/15/16 16:35 | 5 |
| trans-1,3-Dichloropropene | <2.1 | | 5.0 | 2.1 | ug/L | | | 04/15/16 16:35 | 5 |
| 1,1,2-Trichloroethane | <1.7 | | 5.0 | 1.7 | ug/L | | | 04/15/16 16:35 | 5 |
| Tetrachloroethene | <3.7 | | 5.0 | 3.7 | ug/L | | | 04/15/16 16:35 | 5 |
| 2-Hexanone | <10 | | 50 | 10 | ug/L | | | 04/15/16 16:35 | 5 |
| Dibromochloromethane | <1.6 | | 5.0 | 1.6 | ug/L | | | 04/15/16 16:35 | 5 |
| 1,2-Dibromoethane | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/15/16 16:35 | 5 |
| **Chlorobenzene** | **710** | | 5.0 | 1.3 | ug/L | | | 04/15/16 16:35 | 5 |
| Ethylbenzene | <1.7 | | 5.0 | 1.7 | ug/L | | | 04/15/16 16:35 | 5 |
| Styrene | <1.4 | | 5.0 | 1.4 | ug/L | | | 04/15/16 16:35 | 5 |
| Bromoform | <2.2 | | 5.0 | 2.2 | ug/L | | | 04/15/16 16:35 | 5 |
| **Isopropylbenzene** | **21** | | 5.0 | 1.8 | ug/L | | | 04/15/16 16:35 | 5 |
| 1,1,2,2-Tetrachloroethane | <3.1 | | 5.0 | 3.1 | ug/L | | | 04/15/16 16:35 | 5 |
| **1,3-Dichlorobenzene** | **8.8** | | 5.0 | 2.2 | ug/L | | | 04/15/16 16:35 | 5 |
| **1,4-Dichlorobenzene** | **11** | | 5.0 | 2.3 | ug/L | | | 04/15/16 16:35 | 5 |
| **1,2-Dichlorobenzene** | **5.8** | | 5.0 | 1.9 | ug/L | | | 04/15/16 16:35 | 5 |
| 1,2-Dibromo-3-Chloropropane | <5.5 | | 25 | 5.5 | ug/L | | | 04/15/16 16:35 | 5 |
| 1,2,4-Trichlorobenzene | <13 | | 25 | 13 | ug/L | | | 04/15/16 16:35 | 5 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *92* | | *70 - 130* | | *04/15/16 16:35* | *5* |
| *1,2-Dichloroethane-d4 (Surr)* | *122* | | *70 - 130* | | *04/15/16 16:35* | *5* |
| *Dibromofluoromethane (Surr)* | *112* | | *70 - 130* | | *04/15/16 16:35* | *5* |
| *4-Bromofluorobenzene (Surr)* | *105* | | *70 - 130* | | *04/15/16 16:35* | *5* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Xylenes, Total** | **17000** | | 100 | 23 | ug/L | | | 04/18/16 13:25 | 100 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* | | *04/18/16 13:25* | *100* |
| *1,2-Dichloroethane-d4 (Surr)* | *109* | | *70 - 130* | | *04/18/16 13:25* | *100* |
| *Dibromofluoromethane (Surr)* | *102* | | *70 - 130* | | *04/18/16 13:25* | *100* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | | *04/18/16 13:25* | *100* |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: MW-27**
**Date Collected: 04/04/16 18:41**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-13**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/14/16 22:05 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 22:05 | 1 |
| **Vinyl chloride** | **4.0** | | 1.0 | 0.50 | ug/L | | | 04/14/16 22:05 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 22:05 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 22:05 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 22:05 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/14/16 22:05 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/14/16 22:05 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/14/16 22:05 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 22:05 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 22:05 | 1 |
| **Methyl tert-butyl ether** | **0.85** | **J** | 10 | 0.30 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/14/16 22:05 | 1 |
| **cis-1,2-Dichloroethene** | **2.4** | | 1.0 | 0.41 | ug/L | | | 04/14/16 22:05 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/14/16 22:05 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 22:05 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/14/16 22:05 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 22:05 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 22:05 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 22:05 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/14/16 22:05 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 22:05 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 22:05 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/14/16 22:05 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 22:05 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 22:05 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/14/16 22:05 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/14/16 22:05 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 22:05 | 1 |
| **Chlorobenzene** | **5.8** | | 1.0 | 0.26 | ug/L | | | 04/14/16 22:05 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 22:05 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/14/16 22:05 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/14/16 22:05 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 22:05 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/14/16 22:05 | 1 |
| **1,3-Dichlorobenzene** | **0.60** | **J** | 1.0 | 0.43 | ug/L | | | 04/14/16 22:05 | 1 |
| **1,4-Dichlorobenzene** | **0.60** | **J** | 1.0 | 0.46 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/14/16 22:05 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 22:05 | 1 |

## Client Sample ID: MW-27

**Date Collected: 04/04/16 18:41**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-13**
**Matrix: Water**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *90* | | *70 - 130* | | *04/14/16 22:05* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *70 - 130* | | *04/14/16 22:05* | *1* |
| *Dibromofluoromethane (Surr)* | *97* | | *70 - 130* | | *04/14/16 22:05* | *1* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* | | *04/14/16 22:05* | *1* |

## Client Sample ID: MW-28

**Date Collected: 04/06/16 10:46**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-14**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/18/16 13:46 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 13:46 | 1 |
| **Vinyl chloride** | **22** | | 1.0 | 0.50 | ug/L | | | 04/18/16 13:46 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 13:46 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 13:46 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 13:46 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 13:46 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 13:46 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/18/16 13:46 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/18/16 13:46 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/18/16 13:46 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 13:46 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 13:46 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/18/16 13:46 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/18/16 13:46 | 1 |
| **cis-1,2-Dichloroethene** | **47** | | 1.0 | 0.41 | ug/L | | | 04/18/16 13:46 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/18/16 13:46 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 13:46 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 13:46 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/18/16 13:46 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 13:46 | 1 |
| **Benzene** | **1.4** | | 1.0 | 0.43 | ug/L | | | 04/18/16 13:46 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 13:46 | 1 |
| **Trichloroethene** | **1.4** | | 1.0 | 0.48 | ug/L | | | 04/18/16 13:46 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 13:46 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/18/16 13:46 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 13:46 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 13:46 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/18/16 13:46 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 13:46 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 13:46 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 13:46 | 1 |
| **Tetrachloroethene** | **3.9** | | 1.0 | 0.74 | ug/L | | | 04/18/16 13:46 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/18/16 13:46 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/18/16 13:46 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 13:46 | 1 |
| **Chlorobenzene** | **10** | | 1.0 | 0.26 | ug/L | | | 04/18/16 13:46 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 13:46 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/18/16 13:46 | 1 |

## Client Sample ID: MW-28

**Date Collected: 04/06/16 10:46**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-14**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/18/16 13:46 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 13:46 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/18/16 13:46 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/18/16 13:46 | 1 |
| **1,3-Dichlorobenzene** | **0.61** | **J** | 1.0 | 0.43 | ug/L | | | 04/18/16 13:46 | 1 |
| **1,4-Dichlorobenzene** | **3.8** | | 1.0 | 0.46 | ug/L | | | 04/18/16 13:46 | 1 |
| **1,2-Dichlorobenzene** | **0.95** | **J** | 1.0 | 0.37 | ug/L | | | 04/18/16 13:46 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/18/16 13:46 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 13:46 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *04/18/16 13:46* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *70 - 130* | | *04/18/16 13:46* | *1* |
| *Dibromofluoromethane (Surr)* | *97* | | *70 - 130* | | *04/18/16 13:46* | *1* |
| *4-Bromofluorobenzene (Surr)* | *105* | | *70 - 130* | | *04/18/16 13:46* | *1* |

## Client Sample ID: MW-29

**Date Collected: 04/06/16 18:36**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-15**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <60 | | 100 | 60 | ug/L | | | 04/15/16 14:08 | 100 |
| Chloromethane | <40 | | 100 | 40 | ug/L | | | 04/15/16 14:08 | 100 |
| **Vinyl chloride** | **1500** | | 100 | 50 | ug/L | | | 04/15/16 14:08 | 100 |
| Bromomethane | <250 | | 500 | 250 | ug/L | | | 04/15/16 14:08 | 100 |
| Chloroethane | <250 | | 500 | 250 | ug/L | | | 04/15/16 14:08 | 100 |
| Trichlorofluoromethane | <42 | | 100 | 42 | ug/L | | | 04/15/16 14:08 | 100 |
| **1,1-Dichloroethene** | **53** | **J** | 100 | 36 | ug/L | | | 04/15/16 14:08 | 100 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <36 | | 100 | 36 | ug/L | | | 04/15/16 14:08 | 100 |
| Acetone | <700 | | 1000 | 700 | ug/L | | | 04/15/16 14:08 | 100 |
| Carbon disulfide | <100 | | 200 | 100 | ug/L | | | 04/15/16 14:08 | 100 |
| Methyl acetate | <180 | | 500 | 180 | ug/L | | | 04/15/16 14:08 | 100 |
| Methylene Chloride | <250 | | 500 | 250 | ug/L | | | 04/15/16 14:08 | 100 |
| trans-1,2-Dichloroethene | <37 | | 100 | 37 | ug/L | | | 04/15/16 14:08 | 100 |
| Methyl tert-butyl ether | <30 | | 1000 | 30 | ug/L | | | 04/15/16 14:08 | 100 |
| 1,1-Dichloroethane | <38 | | 100 | 38 | ug/L | | | 04/15/16 14:08 | 100 |
| **cis-1,2-Dichloroethene** | **18000** | | 100 | 41 | ug/L | | | 04/15/16 14:08 | 100 |
| 2-Butanone | <340 | | 1000 | 340 | ug/L | | | 04/15/16 14:08 | 100 |
| Chloroform | <50 | | 100 | 50 | ug/L | | | 04/15/16 14:08 | 100 |
| 1,1,1-Trichloroethane | <37 | | 100 | 37 | ug/L | | | 04/15/16 14:08 | 100 |
| Cyclohexane | <39 | | 100 | 39 | ug/L | | | 04/15/16 14:08 | 100 |
| Carbon tetrachloride | <33 | | 100 | 33 | ug/L | | | 04/15/16 14:08 | 100 |
| Benzene | <43 | | 100 | 43 | ug/L | | | 04/15/16 14:08 | 100 |
| 1,2-Dichloroethane | <50 | | 100 | 50 | ug/L | | | 04/15/16 14:08 | 100 |
| **Trichloroethene** | **230** | | 100 | 48 | ug/L | | | 04/15/16 14:08 | 100 |
| Methylcyclohexane | <43 | | 100 | 43 | ug/L | | | 04/15/16 14:08 | 100 |
| 1,2-Dichloropropane | <67 | | 100 | 67 | ug/L | | | 04/15/16 14:08 | 100 |
| Bromodichloromethane | <44 | | 100 | 44 | ug/L | | | 04/15/16 14:08 | 100 |
| cis-1,3-Dichloropropene | <40 | | 100 | 40 | ug/L | | | 04/15/16 14:08 | 100 |

## Client Sample ID: MW-29

**Date Collected: 04/06/16 18:36**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-15**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <210 | | 1000 | 210 | ug/L | | | 04/15/16 14:08 | 100 |
| **Toluene** | **52** | **J** | 100 | 48 | ug/L | | | 04/15/16 14:08 | 100 |
| trans-1,3-Dichloropropene | <42 | | 100 | 42 | ug/L | | | 04/15/16 14:08 | 100 |
| 1,1,2-Trichloroethane | <33 | | 100 | 33 | ug/L | | | 04/15/16 14:08 | 100 |
| **Tetrachloroethene** | **200** | | 100 | 74 | ug/L | | | 04/15/16 14:08 | 100 |
| 2-Hexanone | <200 | | 1000 | 200 | ug/L | | | 04/15/16 14:08 | 100 |
| Dibromochloromethane | <32 | | 100 | 32 | ug/L | | | 04/15/16 14:08 | 100 |
| 1,2-Dibromoethane | <44 | | 100 | 44 | ug/L | | | 04/15/16 14:08 | 100 |
| **Chlorobenzene** | **230** | | 100 | 26 | ug/L | | | 04/15/16 14:08 | 100 |
| **Ethylbenzene** | **2500** | | 100 | 33 | ug/L | | | 04/15/16 14:08 | 100 |
| **Xylenes, Total** | **7200** | | 100 | 23 | ug/L | | | 04/15/16 14:08 | 100 |
| Styrene | <27 | | 100 | 27 | ug/L | | | 04/15/16 14:08 | 100 |
| Bromoform | <43 | | 100 | 43 | ug/L | | | 04/15/16 14:08 | 100 |
| **Isopropylbenzene** | **69** | **J** | 100 | 35 | ug/L | | | 04/15/16 14:08 | 100 |
| 1,1,2,2-Tetrachloroethane | <62 | | 100 | 62 | ug/L | | | 04/15/16 14:08 | 100 |
| **1,3-Dichlorobenzene** | **61** | **J** | 100 | 43 | ug/L | | | 04/15/16 14:08 | 100 |
| **1,4-Dichlorobenzene** | **230** | | 100 | 46 | ug/L | | | 04/15/16 14:08 | 100 |
| **1,2-Dichlorobenzene** | **51** | **J** | 100 | 37 | ug/L | | | 04/15/16 14:08 | 100 |
| 1,2-Dibromo-3-Chloropropane | <110 | | 500 | 110 | ug/L | | | 04/15/16 14:08 | 100 |
| **1,2,4-Trichlorobenzene** | **360** | **J** | 500 | 250 | ug/L | | | 04/15/16 14:08 | 100 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* | | *04/15/16 14:08* | *100* |
| *1,2-Dichloroethane-d4 (Surr)* | *109* | | *70 - 130* | | *04/15/16 14:08* | *100* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* | | *04/15/16 14:08* | *100* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | | *04/15/16 14:08* | *100* |

## Client Sample ID: MW-30

**Date Collected: 04/06/16 15:37**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-16**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/18/16 11:43 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 11:43 | 1 |
| **Vinyl chloride** | **0.59** | **J** | 1.0 | 0.50 | ug/L | | | 04/18/16 11:43 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 11:43 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 11:43 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 11:43 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/18/16 11:43 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/18/16 11:43 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/18/16 11:43 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 11:43 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 11:43 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/18/16 11:43 | 1 |
| **cis-1,2-Dichloroethene** | **0.81** | **J** | 1.0 | 0.41 | ug/L | | | 04/18/16 11:43 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/18/16 11:43 | 1 |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: MW-30

**Date Collected: 04/06/16 15:37**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-16

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 11:43 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/18/16 11:43 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 11:43 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 11:43 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 11:43 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/18/16 11:43 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 11:43 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 11:43 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/18/16 11:43 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 11:43 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 11:43 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/18/16 11:43 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/18/16 11:43 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 11:43 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/18/16 11:43 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 11:43 | 1 |
| **Xylenes, Total** | **0.35** | **J** | 1.0 | 0.23 | ug/L | | | 04/18/16 11:43 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/18/16 11:43 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 11:43 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/18/16 11:43 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 11:43 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *04/18/16 11:43* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/18/16 11:43* | *1* |
| *Dibromofluoromethane (Surr)* | *96* | | *70 - 130* | | *04/18/16 11:43* | *1* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *04/18/16 11:43* | *1* |

## Client Sample ID: MW-31

**Date Collected: 04/06/16 13:52**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-17

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/17/16 21:44 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/17/16 21:44 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/17/16 21:44 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/17/16 21:44 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/17/16 21:44 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/17/16 21:44 | 1 |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: MW-31**
**Date Collected: 04/06/16 13:52**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-17**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/17/16 21:44 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/17/16 21:44 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/17/16 21:44 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/17/16 21:44 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/17/16 21:44 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/17/16 21:44 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/17/16 21:44 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/17/16 21:44 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/17/16 21:44 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/17/16 21:44 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/17/16 21:44 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/17/16 21:44 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/17/16 21:44 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/17/16 21:44 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/17/16 21:44 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/17/16 21:44 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/17/16 21:44 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/17/16 21:44 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/17/16 21:44 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/17/16 21:44 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/17/16 21:44 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/17/16 21:44 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/17/16 21:44 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/17/16 21:44 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/17/16 21:44 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/17/16 21:44 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/17/16 21:44 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/17/16 21:44 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/17/16 21:44 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/17/16 21:44 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/17/16 21:44* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *70 - 130* | | *04/17/16 21:44* | *1* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* | | *04/17/16 21:44* | *1* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *04/17/16 21:44* | *1* |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: MW-32**
**Date Collected: 04/07/16 13:18**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-18**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/18/16 17:21 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 17:21 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 17:21 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 17:21 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 17:21 | 1 |
| **Trichlorofluoromethane** | **1.4** | | 1.0 | 0.42 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 17:21 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/18/16 17:21 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/18/16 17:21 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/18/16 17:21 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 17:21 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 17:21 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/18/16 17:21 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/18/16 17:21 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/18/16 17:21 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 17:21 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/18/16 17:21 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 17:21 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 17:21 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 17:21 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/18/16 17:21 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 17:21 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 17:21 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/18/16 17:21 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 17:21 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 17:21 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/18/16 17:21 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/18/16 17:21 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 17:21 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/18/16 17:21 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 17:21 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/18/16 17:21 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/18/16 17:21 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 17:21 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/18/16 17:21 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 17:21 | 1 |

## Client Sample ID: MW-32

**Date Collected: 04/07/16 13:18**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-18

**Matrix: Water**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *04/18/16 17:21* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *91* | | *70 - 130* | | *04/18/16 17:21* | *1* |
| *Dibromofluoromethane (Surr)* | *95* | | *70 - 130* | | *04/18/16 17:21* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | | *04/18/16 17:21* | *1* |

## Client Sample ID: MW-33

**Date Collected: 04/05/16 18:35**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-19

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/18/16 14:07 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 14:07 | 1 |
| **Vinyl chloride** | **57** | | 1.0 | 0.50 | ug/L | | | 04/18/16 14:07 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 14:07 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 14:07 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 14:07 | 1 |
| **1,1-Dichloroethene** | **0.43** | **J** | 1.0 | 0.36 | ug/L | | | 04/18/16 14:07 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 14:07 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/18/16 14:07 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/18/16 14:07 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/18/16 14:07 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 14:07 | 1 |
| **trans-1,2-Dichloroethene** | **1.6** | | 1.0 | 0.37 | ug/L | | | 04/18/16 14:07 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/18/16 14:07 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/18/16 14:07 | 1 |
| **cis-1,2-Dichloroethene** | **120** | | 1.0 | 0.41 | ug/L | | | 04/18/16 14:07 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/18/16 14:07 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 14:07 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 14:07 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/18/16 14:07 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 14:07 | 1 |
| **Benzene** | **1.0** | | 1.0 | 0.43 | ug/L | | | 04/18/16 14:07 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 14:07 | 1 |
| **Trichloroethene** | **3.2** | | 1.0 | 0.48 | ug/L | | | 04/18/16 14:07 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 14:07 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/18/16 14:07 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 14:07 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 14:07 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/18/16 14:07 | 1 |
| **Toluene** | **1.3** | | 1.0 | 0.48 | ug/L | | | 04/18/16 14:07 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 14:07 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 14:07 | 1 |
| **Tetrachloroethene** | **0.96** | **J** | 1.0 | 0.74 | ug/L | | | 04/18/16 14:07 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/18/16 14:07 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/18/16 14:07 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 14:07 | 1 |
| **Chlorobenzene** | **42** | | 1.0 | 0.26 | ug/L | | | 04/18/16 14:07 | 1 |
| **Ethylbenzene** | **3.2** | | 1.0 | 0.33 | ug/L | | | 04/18/16 14:07 | 1 |
| **Xylenes, Total** | **10** | | 1.0 | 0.23 | ug/L | | | 04/18/16 14:07 | 1 |

## Client Sample ID: MW-33

**Date Collected: 04/05/16 18:35**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-19**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/18/16 14:07 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 14:07 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/18/16 14:07 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/18/16 14:07 | 1 |
| **1,3-Dichlorobenzene** | **22** | | 1.0 | 0.43 | ug/L | | | 04/18/16 14:07 | 1 |
| **1,4-Dichlorobenzene** | **76** | | 1.0 | 0.46 | ug/L | | | 04/18/16 14:07 | 1 |
| **1,2-Dichlorobenzene** | **7.1** | | 1.0 | 0.37 | ug/L | | | 04/18/16 14:07 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/18/16 14:07 | 1 |
| **1,2,4-Trichlorobenzene** | **25** | | 5.0 | 2.5 | ug/L | | | 04/18/16 14:07 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *04/18/16 14:07* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *99* | | *70 - 130* | | *04/18/16 14:07* | *1* |
| *Dibromofluoromethane (Surr)* | *101* | | *70 - 130* | | *04/18/16 14:07* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *04/18/16 14:07* | *1* |

## Client Sample ID: MW-34

**Date Collected: 04/06/16 11:11**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-20**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/17/16 22:06 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/17/16 22:06 | 1 |
| **Vinyl chloride** | **5.5** | | 1.0 | 0.50 | ug/L | | | 04/17/16 22:06 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/17/16 22:06 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/17/16 22:06 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/17/16 22:06 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/17/16 22:06 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/17/16 22:06 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/17/16 22:06 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/17/16 22:06 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/17/16 22:06 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/17/16 22:06 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/17/16 22:06 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/17/16 22:06 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/17/16 22:06 | 1 |
| **cis-1,2-Dichloroethene** | **18** | | 1.0 | 0.41 | ug/L | | | 04/17/16 22:06 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/17/16 22:06 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/17/16 22:06 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/17/16 22:06 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/17/16 22:06 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/17/16 22:06 | 1 |
| **Benzene** | **2.3** | | 1.0 | 0.43 | ug/L | | | 04/17/16 22:06 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/17/16 22:06 | 1 |
| **Trichloroethene** | **0.72** | **J** | 1.0 | 0.48 | ug/L | | | 04/17/16 22:06 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/17/16 22:06 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/17/16 22:06 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/17/16 22:06 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/17/16 22:06 | 1 |

## Client Sample ID: MW-34

**Date Collected: 04/06/16 11:11**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-20**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/17/16 22:06 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/17/16 22:06 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/17/16 22:06 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/17/16 22:06 | 1 |
| **Tetrachloroethene** | **3.9** | | 1.0 | 0.74 | ug/L | | | 04/17/16 22:06 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/17/16 22:06 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/17/16 22:06 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/17/16 22:06 | 1 |
| **Chlorobenzene** | **5.7** | | 1.0 | 0.26 | ug/L | | | 04/17/16 22:06 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/17/16 22:06 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/17/16 22:06 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/17/16 22:06 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/17/16 22:06 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/17/16 22:06 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/17/16 22:06 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/17/16 22:06 | 1 |
| **1,4-Dichlorobenzene** | **1.3** | | 1.0 | 0.46 | ug/L | | | 04/17/16 22:06 | 1 |
| **1,2-Dichlorobenzene** | **0.38** | **J** | 1.0 | 0.37 | ug/L | | | 04/17/16 22:06 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/17/16 22:06 | 1 |
| **1,2,4-Trichlorobenzene** | **2.9** | **J** | 5.0 | 2.5 | ug/L | | | 04/17/16 22:06 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *04/17/16 22:06* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/17/16 22:06* | *1* |
| *Dibromofluoromethane (Surr)* | *96* | | *70 - 130* | | *04/17/16 22:06* | *1* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *04/17/16 22:06* | *1* |

## Client Sample ID: MW-35

**Date Collected: 04/07/16 09:43**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-21**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/18/16 17:42 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 17:42 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 17:42 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 17:42 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 17:42 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 17:42 | 1 |
| **Acetone** | **16** | | 10 | 7.0 | ug/L | | | 04/18/16 17:42 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/18/16 17:42 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/18/16 17:42 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 17:42 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 17:42 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/18/16 17:42 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/18/16 17:42 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/18/16 17:42 | 1 |

## Client Sample ID: MW-35

**Date Collected: 04/07/16 09:43**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-21**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 17:42 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/18/16 17:42 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 17:42 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 17:42 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 17:42 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/18/16 17:42 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 17:42 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 17:42 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/18/16 17:42 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 17:42 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 17:42 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/18/16 17:42 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/18/16 17:42 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 17:42 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/18/16 17:42 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 17:42 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/18/16 17:42 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/18/16 17:42 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 17:42 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/18/16 17:42 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 17:42 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *04/18/16 17:42* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *70 - 130* | | *04/18/16 17:42* | *1* |
| *Dibromofluoromethane (Surr)* | *95* | | *70 - 130* | | *04/18/16 17:42* | *1* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *04/18/16 17:42* | *1* |

## Client Sample ID: MW-36

**Date Collected: 04/07/16 10:40**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-22**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/18/16 18:03 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 18:03 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 18:03 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 18:03 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 18:03 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 18:03 | 1 |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: MW-36**
**Date Collected: 04/07/16 10:40**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-22**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 18:03 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/18/16 18:03 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/18/16 18:03 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/18/16 18:03 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 18:03 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 18:03 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/18/16 18:03 | 1 |
| **cis-1,2-Dichloroethene** | **0.49** | **J** | 1.0 | 0.41 | ug/L | | | 04/18/16 18:03 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/18/16 18:03 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 18:03 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/18/16 18:03 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 18:03 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 18:03 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 18:03 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/18/16 18:03 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 18:03 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 18:03 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/18/16 18:03 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 18:03 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 18:03 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/18/16 18:03 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/18/16 18:03 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 18:03 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/18/16 18:03 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 18:03 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/18/16 18:03 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/18/16 18:03 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 18:03 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/18/16 18:03 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 18:03 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *04/18/16 18:03* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *70 - 130* | | *04/18/16 18:03* | *1* |
| *Dibromofluoromethane (Surr)* | *96* | | *70 - 130* | | *04/18/16 18:03* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *04/18/16 18:03* | *1* |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: MW-37**
**Date Collected: 04/06/16 09:47**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-23**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <6.0 | | 10 | 6.0 | ug/L | | | 04/17/16 22:27 | 10 |
| Chloromethane | <4.0 | | 10 | 4.0 | ug/L | | | 04/17/16 22:27 | 10 |
| **Vinyl chloride** | **96** | | 10 | 5.0 | ug/L | | | 04/17/16 22:27 | 10 |
| Bromomethane | <25 | | 50 | 25 | ug/L | | | 04/17/16 22:27 | 10 |
| Chloroethane | <25 | | 50 | 25 | ug/L | | | 04/17/16 22:27 | 10 |
| Trichlorofluoromethane | <4.2 | | 10 | 4.2 | ug/L | | | 04/17/16 22:27 | 10 |
| 1,1-Dichloroethene | <3.6 | | 10 | 3.6 | ug/L | | | 04/17/16 22:27 | 10 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <3.6 | | 10 | 3.6 | ug/L | | | 04/17/16 22:27 | 10 |
| Acetone | <70 | | 100 | 70 | ug/L | | | 04/17/16 22:27 | 10 |
| Carbon disulfide | <10 | | 20 | 10 | ug/L | | | 04/17/16 22:27 | 10 |
| Methyl acetate | <18 | | 50 | 18 | ug/L | | | 04/17/16 22:27 | 10 |
| Methylene Chloride | <25 | | 50 | 25 | ug/L | | | 04/17/16 22:27 | 10 |
| trans-1,2-Dichloroethene | <3.7 | | 10 | 3.7 | ug/L | | | 04/17/16 22:27 | 10 |
| Methyl tert-butyl ether | <3.0 | | 100 | 3.0 | ug/L | | | 04/17/16 22:27 | 10 |
| 1,1-Dichloroethane | <3.8 | | 10 | 3.8 | ug/L | | | 04/17/16 22:27 | 10 |
| **cis-1,2-Dichloroethene** | **400** | | 10 | 4.1 | ug/L | | | 04/17/16 22:27 | 10 |
| 2-Butanone | <34 | | 100 | 34 | ug/L | | | 04/17/16 22:27 | 10 |
| Chloroform | <5.0 | | 10 | 5.0 | ug/L | | | 04/17/16 22:27 | 10 |
| 1,1,1-Trichloroethane | <3.7 | | 10 | 3.7 | ug/L | | | 04/17/16 22:27 | 10 |
| Cyclohexane | <3.9 | | 10 | 3.9 | ug/L | | | 04/17/16 22:27 | 10 |
| Carbon tetrachloride | <3.3 | | 10 | 3.3 | ug/L | | | 04/17/16 22:27 | 10 |
| **Benzene** | **13** | | 10 | 4.3 | ug/L | | | 04/17/16 22:27 | 10 |
| 1,2-Dichloroethane | <5.0 | | 10 | 5.0 | ug/L | | | 04/17/16 22:27 | 10 |
| **Trichloroethene** | **11** | | 10 | 4.8 | ug/L | | | 04/17/16 22:27 | 10 |
| Methylcyclohexane | <4.3 | | 10 | 4.3 | ug/L | | | 04/17/16 22:27 | 10 |
| 1,2-Dichloropropane | <6.7 | | 10 | 6.7 | ug/L | | | 04/17/16 22:27 | 10 |
| Bromodichloromethane | <4.4 | | 10 | 4.4 | ug/L | | | 04/17/16 22:27 | 10 |
| cis-1,3-Dichloropropene | <4.0 | | 10 | 4.0 | ug/L | | | 04/17/16 22:27 | 10 |
| 4-Methyl-2-pentanone | <21 | | 100 | 21 | ug/L | | | 04/17/16 22:27 | 10 |
| Toluene | <4.8 | | 10 | 4.8 | ug/L | | | 04/17/16 22:27 | 10 |
| trans-1,3-Dichloropropene | <4.2 | | 10 | 4.2 | ug/L | | | 04/17/16 22:27 | 10 |
| 1,1,2-Trichloroethane | <3.3 | | 10 | 3.3 | ug/L | | | 04/17/16 22:27 | 10 |
| **Tetrachloroethene** | **30** | | 10 | 7.4 | ug/L | | | 04/17/16 22:27 | 10 |
| 2-Hexanone | <20 | | 100 | 20 | ug/L | | | 04/17/16 22:27 | 10 |
| Dibromochloromethane | <3.2 | | 10 | 3.2 | ug/L | | | 04/17/16 22:27 | 10 |
| 1,2-Dibromoethane | <4.4 | | 10 | 4.4 | ug/L | | | 04/17/16 22:27 | 10 |
| **Chlorobenzene** | **94** | | 10 | 2.6 | ug/L | | | 04/17/16 22:27 | 10 |
| Ethylbenzene | <3.3 | | 10 | 3.3 | ug/L | | | 04/17/16 22:27 | 10 |
| Xylenes, Total | <2.3 | | 10 | 2.3 | ug/L | | | 04/17/16 22:27 | 10 |
| Styrene | <2.7 | | 10 | 2.7 | ug/L | | | 04/17/16 22:27 | 10 |
| Bromoform | <4.3 | | 10 | 4.3 | ug/L | | | 04/17/16 22:27 | 10 |
| Isopropylbenzene | <3.5 | | 10 | 3.5 | ug/L | | | 04/17/16 22:27 | 10 |
| 1,1,2,2-Tetrachloroethane | <6.2 | | 10 | 6.2 | ug/L | | | 04/17/16 22:27 | 10 |
| **1,3-Dichlorobenzene** | **8.8** | **J** | 10 | 4.3 | ug/L | | | 04/17/16 22:27 | 10 |
| **1,4-Dichlorobenzene** | **53** | | 10 | 4.6 | ug/L | | | 04/17/16 22:27 | 10 |
| **1,2-Dichlorobenzene** | **15** | | 10 | 3.7 | ug/L | | | 04/17/16 22:27 | 10 |
| 1,2-Dibromo-3-Chloropropane | <11 | | 50 | 11 | ug/L | | | 04/17/16 22:27 | 10 |
| **1,2,4-Trichlorobenzene** | **110** | | 50 | 25 | ug/L | | | 04/17/16 22:27 | 10 |

## Client Sample ID: MW-37

**Lab Sample ID: 680-123918-23**

**Date Collected: 04/06/16 09:47**

**Matrix: Water**

**Date Received: 04/08/16 08:30**

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *97* | | *70 - 130* | | *04/17/16 22:27* | *10* |
| *1,2-Dichloroethane-d4 (Surr)* | *105* | | *70 - 130* | | *04/17/16 22:27* | *10* |
| *Dibromofluoromethane (Surr)* | *102* | | *70 - 130* | | *04/17/16 22:27* | *10* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | | *04/17/16 22:27* | *10* |

## Client Sample ID: PAN-MW-9

**Lab Sample ID: 680-123918-24**

**Date Collected: 04/06/16 18:02**

**Matrix: Water**

**Date Received: 04/08/16 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <12 | | 20 | 12 | ug/L | | | 04/17/16 22:48 | 20 |
| Chloromethane | <8.0 | | 20 | 8.0 | ug/L | | | 04/17/16 22:48 | 20 |
| **Vinyl chloride** | **250** | | 20 | 10 | ug/L | | | 04/17/16 22:48 | 20 |
| Bromomethane | <50 | | 100 | 50 | ug/L | | | 04/17/16 22:48 | 20 |
| Chloroethane | <50 | | 100 | 50 | ug/L | | | 04/17/16 22:48 | 20 |
| Trichlorofluoromethane | <8.4 | | 20 | 8.4 | ug/L | | | 04/17/16 22:48 | 20 |
| **1,1-Dichloroethene** | **10** | **J** | 20 | 7.2 | ug/L | | | 04/17/16 22:48 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <7.2 | | 20 | 7.2 | ug/L | | | 04/17/16 22:48 | 20 |
| Acetone | <140 | | 200 | 140 | ug/L | | | 04/17/16 22:48 | 20 |
| Carbon disulfide | <20 | | 40 | 20 | ug/L | | | 04/17/16 22:48 | 20 |
| Methyl acetate | <36 | | 100 | 36 | ug/L | | | 04/17/16 22:48 | 20 |
| Methylene Chloride | <50 | | 100 | 50 | ug/L | | | 04/17/16 22:48 | 20 |
| trans-1,2-Dichloroethene | <7.4 | | 20 | 7.4 | ug/L | | | 04/17/16 22:48 | 20 |
| Methyl tert-butyl ether | <6.0 | | 200 | 6.0 | ug/L | | | 04/17/16 22:48 | 20 |
| 1,1-Dichloroethane | <7.6 | | 20 | 7.6 | ug/L | | | 04/17/16 22:48 | 20 |
| **cis-1,2-Dichloroethene** | **2300** | | 20 | 8.2 | ug/L | | | 04/17/16 22:48 | 20 |
| 2-Butanone | <68 | | 200 | 68 | ug/L | | | 04/17/16 22:48 | 20 |
| Chloroform | <10 | | 20 | 10 | ug/L | | | 04/17/16 22:48 | 20 |
| 1,1,1-Trichloroethane | <7.4 | | 20 | 7.4 | ug/L | | | 04/17/16 22:48 | 20 |
| Cyclohexane | <7.8 | | 20 | 7.8 | ug/L | | | 04/17/16 22:48 | 20 |
| Carbon tetrachloride | <6.6 | | 20 | 6.6 | ug/L | | | 04/17/16 22:48 | 20 |
| Benzene | <8.6 | | 20 | 8.6 | ug/L | | | 04/17/16 22:48 | 20 |
| 1,2-Dichloroethane | <10 | | 20 | 10 | ug/L | | | 04/17/16 22:48 | 20 |
| **Trichloroethene** | **12** | **J** | 20 | 9.6 | ug/L | | | 04/17/16 22:48 | 20 |
| Methylcyclohexane | <8.6 | | 20 | 8.6 | ug/L | | | 04/17/16 22:48 | 20 |
| 1,2-Dichloropropane | <13 | | 20 | 13 | ug/L | | | 04/17/16 22:48 | 20 |
| Bromodichloromethane | <8.8 | | 20 | 8.8 | ug/L | | | 04/17/16 22:48 | 20 |
| cis-1,3-Dichloropropene | <8.0 | | 20 | 8.0 | ug/L | | | 04/17/16 22:48 | 20 |
| 4-Methyl-2-pentanone | <42 | | 200 | 42 | ug/L | | | 04/17/16 22:48 | 20 |
| Toluene | <9.6 | | 20 | 9.6 | ug/L | | | 04/17/16 22:48 | 20 |
| trans-1,3-Dichloropropene | <8.4 | | 20 | 8.4 | ug/L | | | 04/17/16 22:48 | 20 |
| 1,1,2-Trichloroethane | <6.6 | | 20 | 6.6 | ug/L | | | 04/17/16 22:48 | 20 |
| Tetrachloroethene | <15 | | 20 | 15 | ug/L | | | 04/17/16 22:48 | 20 |
| 2-Hexanone | <40 | | 200 | 40 | ug/L | | | 04/17/16 22:48 | 20 |
| Dibromochloromethane | <6.4 | | 20 | 6.4 | ug/L | | | 04/17/16 22:48 | 20 |
| 1,2-Dibromoethane | <8.8 | | 20 | 8.8 | ug/L | | | 04/17/16 22:48 | 20 |
| **Chlorobenzene** | **69** | | 20 | 5.2 | ug/L | | | 04/17/16 22:48 | 20 |
| **Ethylbenzene** | **890** | | 20 | 6.6 | ug/L | | | 04/17/16 22:48 | 20 |
| **Xylenes, Total** | **2300** | | 20 | 4.6 | ug/L | | | 04/17/16 22:48 | 20 |

## Client Sample ID: PAN-MW-9

**Date Collected: 04/06/16 18:02**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-24**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Styrene | <5.4 | | 20 | 5.4 | ug/L | | | 04/17/16 22:48 | 20 |
| Bromoform | <8.6 | | 20 | 8.6 | ug/L | | | 04/17/16 22:48 | 20 |
| **Isopropylbenzene** | **50** | | 20 | 7.0 | ug/L | | | 04/17/16 22:48 | 20 |
| 1,1,2,2-Tetrachloroethane | <12 | | 20 | 12 | ug/L | | | 04/17/16 22:48 | 20 |
| **1,3-Dichlorobenzene** | **12** | **J** | 20 | 8.6 | ug/L | | | 04/17/16 22:48 | 20 |
| **1,4-Dichlorobenzene** | **48** | | 20 | 9.2 | ug/L | | | 04/17/16 22:48 | 20 |
| **1,2-Dichlorobenzene** | **7.7** | **J** | 20 | 7.4 | ug/L | | | 04/17/16 22:48 | 20 |
| 1,2-Dibromo-3-Chloropropane | <22 | | 100 | 22 | ug/L | | | 04/17/16 22:48 | 20 |
| 1,2,4-Trichlorobenzene | <50 | | 100 | 50 | ug/L | | | 04/17/16 22:48 | 20 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *93* | | *70 - 130* | | *04/17/16 22:48* | *20* |
| *1,2-Dichloroethane-d4 (Surr)* | *111* | | *70 - 130* | | *04/17/16 22:48* | *20* |
| *Dibromofluoromethane (Surr)* | *105* | | *70 - 130* | | *04/17/16 22:48* | *20* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *04/17/16 22:48* | *20* |

## Client Sample ID: PAN-MW-10

**Date Collected: 04/05/16 15:01**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-25**
**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/15/16 13:47 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/15/16 13:47 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/15/16 13:47 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 13:47 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 13:47 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/15/16 13:47 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/15/16 13:47 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/15/16 13:47 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/15/16 13:47 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 13:47 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/15/16 13:47 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/15/16 13:47 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/15/16 13:47 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/15/16 13:47 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/15/16 13:47 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/15/16 13:47 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/15/16 13:47 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/15/16 13:47 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/15/16 13:47 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/15/16 13:47 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/15/16 13:47 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/15/16 13:47 | 1 |

## Client Sample ID: PAN-MW-10

**Lab Sample ID: 680-123918-25**

**Date Collected: 04/05/16 15:01**

**Matrix: Water**

**Date Received: 04/08/16 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/15/16 13:47 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/15/16 13:47 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/15/16 13:47 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/15/16 13:47 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/15/16 13:47 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/15/16 13:47 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/15/16 13:47 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/15/16 13:47 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/15/16 13:47 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/15/16 13:47 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/15/16 13:47 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/15/16 13:47 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 13:47 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* | | *04/15/16 13:47* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *70 - 130* | | *04/15/16 13:47* | *1* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* | | *04/15/16 13:47* | *1* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | | *04/15/16 13:47* | *1* |

## Client Sample ID: Trip Blank

**Lab Sample ID: 680-123918-26**

**Date Collected: 04/04/16 00:00**

**Matrix: Water**

**Date Received: 04/08/16 08:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/14/16 20:41 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 20:41 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 20:41 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 20:41 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 20:41 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 20:41 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/14/16 20:41 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/14/16 20:41 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/14/16 20:41 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 20:41 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 20:41 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/14/16 20:41 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/14/16 20:41 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/14/16 20:41 | 1 |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Client Sample ID: Trip Blank**
**Date Collected: 04/04/16 00:00**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-26**
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 20:41 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/14/16 20:41 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 20:41 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 20:41 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 20:41 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/14/16 20:41 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 20:41 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 20:41 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/14/16 20:41 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 20:41 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 20:41 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/14/16 20:41 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/14/16 20:41 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 20:41 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/14/16 20:41 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 20:41 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/14/16 20:41 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/14/16 20:41 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 20:41 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/14/16 20:41 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 20:41 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *04/14/16 20:41* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *70 - 130* | | *04/14/16 20:41* | *1* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* | | *04/14/16 20:41* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | | *04/14/16 20:41* | *1* |

# Surrogate Summary

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Water**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | TOL | 12DCE | DBFM | BFB |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | (70-130) | (70-130) |
| 680-123918-1 | IW-1R | 96 | 110 | 103 | 103 |
| 680-123918-2 | IW-18 | 96 | 106 | 104 | 100 |
| 680-123918-2 - DL | IW-18 | 108 | 94 | 94 | 114 |
| 680-123918-3 | LAW-PZ-8R | 98 | 108 | 101 | 103 |
| 680-123918-4 | MW-14 | 101 | 91 | 94 | 99 |
| 680-123918-5 | MW-16 | 92 | 125 | 110 | 101 |
| 680-123918-5 - DL | MW-16 | 93 | 114 | 107 | 102 |
| 680-123918-6 | MW-17R | 87 | 94 | 94 | 112 |
| 680-123918-7 | MW-18R | 103 | 92 | 94 | 100 |
| 680-123918-8 | MW-19 | 101 | 96 | 96 | 103 |
| 680-123918-9 | MW-23 | 111 | 98 | 95 | 106 |
| 680-123918-10 | MW-24R | 95 | 119 | 108 | 103 |
| 680-123918-11 | MW-25 | 111 | 98 | 99 | 102 |
| 680-123918-12 | MW-26R | 92 | 122 | 112 | 105 |
| 680-123918-12 - DL | MW-26R | 100 | 109 | 102 | 104 |
| 680-123918-13 | MW-27 | 90 | 100 | 97 | 106 |
| 680-123918-14 | MW-28 | 102 | 100 | 97 | 105 |
| 680-123918-15 | MW-29 | 99 | 109 | 103 | 102 |
| 680-123918-16 | MW-30 | 102 | 93 | 96 | 101 |
| 680-123918-17 | MW-31 | 101 | 92 | 94 | 101 |
| 680-123918-18 | MW-32 | 103 | 91 | 95 | 99 |
| 680-123918-19 | MW-33 | 102 | 99 | 101 | 103 |
| 680-123918-20 | MW-34 | 102 | 93 | 96 | 101 |
| 680-123918-21 | MW-35 | 103 | 92 | 95 | 101 |
| 680-123918-22 | MW-36 | 105 | 92 | 96 | 100 |
| 680-123918-23 | MW-37 | 97 | 105 | 102 | 100 |
| 680-123918-24 | PAN-MW-9 | 93 | 111 | 105 | 101 |
| 680-123918-25 | PAN-MW-10 | 100 | 100 | 94 | 102 |
| 680-123918-26 | Trip Blank | 103 | 97 | 94 | 103 |
| LB 680-429163/1-A | Method Blank | 96 | 111 | 104 | 105 |
| LCS 680-429212/3 | Lab Control Sample | 113 | 100 | 97 | 97 |
| LCS 680-429229/4 | Lab Control Sample | 101 | 105 | 99 | 106 |
| LCS 680-429438/4 | Lab Control Sample | 105 | 100 | 108 | 97 |
| LCS 680-429447/4 | Lab Control Sample | 107 | 96 | 103 | 99 |
| LCS 680-429452/4 | Lab Control Sample | 103 | 108 | 104 | 108 |
| LCS 680-429617/4 | Lab Control Sample | 101 | 100 | 100 | 102 |
| LCSD 680-429212/29 | Lab Control Sample Dup | 101 | 105 | 99 | 104 |
| LCSD 680-429229/5 | Lab Control Sample Dup | 101 | 103 | 102 | 106 |
| LCSD 680-429438/5 | Lab Control Sample Dup | 109 | 95 | 105 | 97 |
| LCSD 680-429447/5 | Lab Control Sample Dup | 106 | 97 | 105 | 99 |
| LCSD 680-429452/5 | Lab Control Sample Dup | 101 | 102 | 101 | 106 |
| LCSD 680-429617/5 | Lab Control Sample Dup | 106 | 99 | 98 | 112 |
| MB 680-429212/8 | Method Blank | 91 | 93 | 94 | 101 |
| MB 680-429229/8 | Method Blank | 101 | 97 | 96 | 102 |
| MB 680-429438/9 | Method Blank | 103 | 91 | 96 | 98 |
| MB 680-429447/9 | Method Blank | 105 | 92 | 95 | 101 |
| MB 680-429452/8 | Method Blank | 101 | 99 | 95 | 104 |
| MB 680-429617/12 | Method Blank | 98 | 95 | 93 | 108 |

# Surrogate Summary

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Surrogate Legend**

TOL = Toluene-d8 (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 680-429212/8**
**Matrix: Water**
**Analysis Batch: 429212**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/14/16 20:20 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 20:20 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 20:20 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 20:20 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 20:20 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/14/16 20:20 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/14/16 20:20 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/14/16 20:20 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/14/16 20:20 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 20:20 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 20:20 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/14/16 20:20 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/14/16 20:20 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/14/16 20:20 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 20:20 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/14/16 20:20 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 20:20 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/14/16 20:20 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 20:20 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/14/16 20:20 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 20:20 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/14/16 20:20 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/14/16 20:20 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/14/16 20:20 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 20:20 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/14/16 20:20 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/14/16 20:20 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/14/16 20:20 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/14/16 20:20 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/14/16 20:20 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/14/16 20:20 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/14/16 20:20 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 20:20 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/14/16 20:20 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/14/16 20:20 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *91* | | *70 - 130* | | *04/14/16 20:20* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *70 - 130* | | *04/14/16 20:20* | *1* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* | | *04/14/16 20:20* | *1* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *04/14/16 20:20* | *1* |

**Lab Sample ID: LCS 680-429212/3**
**Matrix: Water**
**Analysis Batch: 429212**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 57.8 | | ug/L | | 116 | 51 - 140 |
| Chloromethane | 50.0 | 52.3 | | ug/L | | 105 | 63 - 126 |
| Vinyl chloride | 50.0 | 50.7 | | ug/L | | 101 | 68 - 132 |
| Bromomethane | 50.0 | 46.6 | | ug/L | | 93 | 20 - 180 |
| Chloroethane | 50.0 | 44.4 | | ug/L | | 89 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 50.6 | | ug/L | | 101 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 46.3 | | ug/L | | 93 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 52.0 | | ug/L | | 104 | 65 - 131 |
| Acetone | 250 | 248 | | ug/L | | 99 | 60 - 154 |
| Carbon disulfide | 50.0 | 47.8 | | ug/L | | 96 | 73 - 127 |
| Methyl acetate | 250 | 247 | | ug/L | | 99 | 66 - 134 |
| Methylene Chloride | 50.0 | 46.4 | | ug/L | | 93 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 48.0 | | ug/L | | 96 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 49.5 | | ug/L | | 99 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 50.8 | | ug/L | | 102 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 52.0 | | ug/L | | 104 | 80 - 122 |
| 2-Butanone | 250 | 260 | | ug/L | | 104 | 75 - 133 |
| Chloroform | 50.0 | 49.4 | | ug/L | | 99 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 50.5 | | ug/L | | 101 | 74 - 128 |
| Cyclohexane | 50.0 | 51.6 | | ug/L | | 103 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 50.5 | | ug/L | | 101 | 75 - 130 |
| Benzene | 50.0 | 50.4 | | ug/L | | 101 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 48.2 | | ug/L | | 96 | 75 - 130 |
| Trichloroethene | 50.0 | 47.1 | | ug/L | | 94 | 80 - 123 |
| Methylcyclohexane | 50.0 | 52.8 | | ug/L | | 106 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 49.9 | | ug/L | | 100 | 80 - 123 |
| Bromodichloromethane | 50.0 | 48.7 | | ug/L | | 97 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 47.3 | | ug/L | | 95 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 260 | | ug/L | | 104 | 75 - 135 |
| Toluene | 50.0 | 50.0 | | ug/L | | 100 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 53.9 | | ug/L | | 108 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 49.1 | | ug/L | | 98 | 79 - 125 |
| Tetrachloroethene | 50.0 | 52.4 | | ug/L | | 105 | 77 - 123 |
| 2-Hexanone | 250 | 275 | | ug/L | | 110 | 70 - 141 |
| Dibromochloromethane | 50.0 | 46.0 | | ug/L | | 92 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 50.3 | | ug/L | | 101 | 77 - 131 |
| Chlorobenzene | 50.0 | 49.4 | | ug/L | | 99 | 80 - 120 |
| Ethylbenzene | 50.0 | 51.4 | | ug/L | | 103 | 80 - 120 |
| Xylenes, Total | 100 | 105 | | ug/L | | 105 | 80 - 120 |
| Styrene | 50.0 | 53.3 | | ug/L | | 107 | 80 - 122 |
| Bromoform | 50.0 | 54.2 | | ug/L | | 108 | 69 - 135 |
| Isopropylbenzene | 50.0 | 54.1 | | ug/L | | 108 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 54.1 | | ug/L | | 108 | 72 - 128 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-429212/3**
**Matrix: Water**
**Analysis Batch: 429212**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,3-Dichlorobenzene | | | 50.0 | 51.2 | | ug/L | | 102 | 80 - 120 | | |
| 1,4-Dichlorobenzene | | | 50.0 | 50.4 | | ug/L | | 101 | 80 - 120 | | |
| 1,2-Dichlorobenzene | | | 50.0 | 50.3 | | ug/L | | 101 | 80 - 120 | | |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 50.3 | | ug/L | | 101 | 59 - 141 | | |
| 1,2,4-Trichlorobenzene | | | 50.0 | 50.0 | | ug/L | | 100 | 77 - 131 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *113* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *97* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |

**Lab Sample ID: LCSD 680-429212/29**
**Matrix: Water**
**Analysis Batch: 429212**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | | | 50.0 | 48.5 | | ug/L | | 97 | 51 - 140 | 17 | 40 |
| Chloromethane | | | 50.0 | 45.9 | | ug/L | | 92 | 63 - 126 | 13 | 30 |
| Vinyl chloride | | | 50.0 | 46.2 | | ug/L | | 92 | 68 - 132 | 9 | 30 |
| Bromomethane | | | 50.0 | 43.7 | | ug/L | | 87 | 20 - 180 | 6 | 40 |
| Chloroethane | | | 50.0 | 47.6 | | ug/L | | 95 | 50 - 151 | 7 | 30 |
| Trichlorofluoromethane | | | 50.0 | 50.4 | | ug/L | | 101 | 58 - 145 | 0 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 47.9 | | ug/L | | 96 | 74 - 125 | 3 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 51.3 | | ug/L | | 103 | 65 - 131 | 1 | 30 |
| Acetone | | | 250 | 245 | | ug/L | | 98 | 60 - 154 | 1 | 40 |
| Carbon disulfide | | | 50.0 | 48.6 | | ug/L | | 97 | 73 - 127 | 2 | 20 |
| Methyl acetate | | | 250 | 261 | | ug/L | | 104 | 66 - 134 | 6 | 30 |
| Methylene Chloride | | | 50.0 | 49.1 | | ug/L | | 98 | 76 - 129 | 6 | 20 |
| trans-1,2-Dichloroethene | | | 50.0 | 49.3 | | ug/L | | 99 | 78 - 123 | 3 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 50.3 | | ug/L | | 101 | 74 - 135 | 2 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 52.3 | | ug/L | | 105 | 80 - 120 | 3 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 53.0 | | ug/L | | 106 | 80 - 122 | 2 | 20 |
| 2-Butanone | | | 250 | 267 | | ug/L | | 107 | 75 - 133 | 2 | 30 |
| Chloroform | | | 50.0 | 51.2 | | ug/L | | 102 | 79 - 122 | 3 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 53.3 | | ug/L | | 107 | 74 - 128 | 5 | 20 |
| Cyclohexane | | | 50.0 | 52.3 | | ug/L | | 105 | 69 - 130 | 1 | 30 |
| Carbon tetrachloride | | | 50.0 | 51.6 | | ug/L | | 103 | 75 - 130 | 2 | 20 |
| Benzene | | | 50.0 | 52.4 | | ug/L | | 105 | 73 - 131 | 4 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 52.8 | | ug/L | | 106 | 75 - 130 | 9 | 20 |
| Trichloroethene | | | 50.0 | 50.8 | | ug/L | | 102 | 80 - 123 | 7 | 20 |
| Methylcyclohexane | | | 50.0 | 52.6 | | ug/L | | 105 | 75 - 127 | 0 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 52.3 | | ug/L | | 105 | 80 - 123 | 5 | 20 |
| Bromodichloromethane | | | 50.0 | 51.9 | | ug/L | | 104 | 77 - 129 | 6 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 52.2 | | ug/L | | 104 | 80 - 133 | 10 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 289 | | ug/L | | 116 | 75 - 135 | 11 | 30 |
| Toluene | | | 50.0 | 52.7 | | ug/L | | 105 | 80 - 122 | 5 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-429212/29**
**Matrix: Water**
**Analysis Batch: 429212**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | | | 50.0 | 54.9 | | ug/L | | 110 | 74 - 140 | 2 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 52.0 | | ug/L | | 104 | 79 - 125 | 6 | 20 |
| Tetrachloroethene | | | 50.0 | 53.4 | | ug/L | | 107 | 77 - 123 | 2 | 20 |
| 2-Hexanone | | | 250 | 299 | | ug/L | | 120 | 70 - 141 | 8 | 40 |
| Dibromochloromethane | | | 50.0 | 53.6 | | ug/L | | 107 | 71 - 136 | 15 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 53.2 | | ug/L | | 106 | 77 - 131 | 6 | 30 |
| Chlorobenzene | | | 50.0 | 49.2 | | ug/L | | 98 | 80 - 120 | 0 | 20 |
| Ethylbenzene | | | 50.0 | 51.3 | | ug/L | | 103 | 80 - 120 | 0 | 20 |
| Xylenes, Total | | | 100 | 104 | | ug/L | | 104 | 80 - 120 | 1 | 20 |
| Styrene | | | 50.0 | 52.6 | | ug/L | | 105 | 80 - 122 | 1 | 20 |
| Bromoform | | | 50.0 | 52.1 | | ug/L | | 104 | 69 - 135 | 4 | 20 |
| Isopropylbenzene | | | 50.0 | 52.8 | | ug/L | | 106 | 80 - 120 | 2 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 51.4 | | ug/L | | 103 | 72 - 128 | 5 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 51.0 | | ug/L | | 102 | 80 - 120 | 0 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 50.1 | | ug/L | | 100 | 80 - 120 | 0 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 50.1 | | ug/L | | 100 | 80 - 120 | 0 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 46.5 | | ug/L | | 93 | 59 - 141 | 8 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 46.8 | | ug/L | | 94 | 77 - 131 | 7 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *105* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* |

**Lab Sample ID: MB 680-429229/8**
**Matrix: Water**
**Analysis Batch: 429229**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/15/16 10:17 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/15/16 10:17 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/15/16 10:17 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 10:17 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 10:17 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/15/16 10:17 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/15/16 10:17 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/15/16 10:17 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/15/16 10:17 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 10:17 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/15/16 10:17 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/15/16 10:17 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/15/16 10:17 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/15/16 10:17 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/15/16 10:17 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-429229/8**
**Matrix: Water**
**Analysis Batch: 429229**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/15/16 10:17 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/15/16 10:17 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/15/16 10:17 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/15/16 10:17 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/15/16 10:17 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/15/16 10:17 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/15/16 10:17 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/15/16 10:17 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/15/16 10:17 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/15/16 10:17 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/15/16 10:17 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/15/16 10:17 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/15/16 10:17 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/15/16 10:17 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/15/16 10:17 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/15/16 10:17 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/15/16 10:17 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/15/16 10:17 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/15/16 10:17 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/15/16 10:17 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/15/16 10:17 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/15/16 10:17* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *70 - 130* | | *04/15/16 10:17* | *1* |
| *Dibromofluoromethane (Surr)* | *96* | | *70 - 130* | | *04/15/16 10:17* | *1* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | | *04/15/16 10:17* | *1* |

**Lab Sample ID: LCS 680-429229/4**
**Matrix: Water**
**Analysis Batch: 429229**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 47.3 | | ug/L | | 95 | 51 - 140 |
| Chloromethane | 50.0 | 47.0 | | ug/L | | 94 | 63 - 126 |
| Vinyl chloride | 50.0 | 47.4 | | ug/L | | 95 | 68 - 132 |
| Bromomethane | 50.0 | 46.2 | | ug/L | | 92 | 20 - 180 |
| Chloroethane | 50.0 | 44.9 | | ug/L | | 90 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 49.6 | | ug/L | | 99 | 58 - 145 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-429229/4**
**Matrix: Water**
**Analysis Batch: 429229**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50.0 | 54.1 | | ug/L | | 108 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 51.8 | | ug/L | | 104 | 65 - 131 |
| Acetone | 250 | 265 | | ug/L | | 106 | 60 - 154 |
| Carbon disulfide | 50.0 | 52.3 | | ug/L | | 105 | 73 - 127 |
| Methyl acetate | 250 | 275 | | ug/L | | 110 | 66 - 134 |
| Methylene Chloride | 50.0 | 50.5 | | ug/L | | 101 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 51.4 | | ug/L | | 103 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 52.7 | | ug/L | | 105 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 54.4 | | ug/L | | 109 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 55.3 | | ug/L | | 111 | 80 - 122 |
| 2-Butanone | 250 | 272 | | ug/L | | 109 | 75 - 133 |
| Chloroform | 50.0 | 52.3 | | ug/L | | 105 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 53.3 | | ug/L | | 107 | 74 - 128 |
| Cyclohexane | 50.0 | 52.7 | | ug/L | | 105 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 51.1 | | ug/L | | 102 | 75 - 130 |
| Benzene | 50.0 | 52.3 | | ug/L | | 105 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 52.2 | | ug/L | | 104 | 75 - 130 |
| Trichloroethene | 50.0 | 50.8 | | ug/L | | 102 | 80 - 123 |
| Methylcyclohexane | 50.0 | 53.0 | | ug/L | | 106 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 51.4 | | ug/L | | 103 | 80 - 123 |
| Bromodichloromethane | 50.0 | 51.1 | | ug/L | | 102 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 53.0 | | ug/L | | 106 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 279 | | ug/L | | 112 | 75 - 135 |
| Toluene | 50.0 | 52.1 | | ug/L | | 104 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 56.7 | | ug/L | | 113 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 51.8 | | ug/L | | 104 | 79 - 125 |
| Tetrachloroethene | 50.0 | 52.2 | | ug/L | | 104 | 77 - 123 |
| 2-Hexanone | 250 | 291 | | ug/L | | 117 | 70 - 141 |
| Dibromochloromethane | 50.0 | 53.1 | | ug/L | | 106 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 52.9 | | ug/L | | 106 | 77 - 131 |
| Chlorobenzene | 50.0 | 49.1 | | ug/L | | 98 | 80 - 120 |
| Ethylbenzene | 50.0 | 51.9 | | ug/L | | 104 | 80 - 120 |
| Xylenes, Total | 100 | 104 | | ug/L | | 104 | 80 - 120 |
| Styrene | 50.0 | 51.6 | | ug/L | | 103 | 80 - 122 |
| Bromoform | 50.0 | 50.2 | | ug/L | | 100 | 69 - 135 |
| Isopropylbenzene | 50.0 | 52.4 | | ug/L | | 105 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 50.3 | | ug/L | | 101 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 50.5 | | ug/L | | 101 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 49.7 | | ug/L | | 99 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 49.6 | | ug/L | | 99 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 47.8 | | ug/L | | 96 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 47.9 | | ug/L | | 96 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *105* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *99* | | *70 - 130* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-429229/4**
**Matrix: Water**
**Analysis Batch: 429229**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* |

**Lab Sample ID: LCSD 680-429229/5**
**Matrix: Water**
**Analysis Batch: 429229**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | | | 50.0 | 47.5 | | ug/L | | 95 | 51 - 140 | 1 | 40 |
| Chloromethane | | | 50.0 | 46.3 | | ug/L | | 93 | 63 - 126 | 2 | 30 |
| Vinyl chloride | | | 50.0 | 47.3 | | ug/L | | 95 | 68 - 132 | 0 | 30 |
| Bromomethane | | | 50.0 | 44.6 | | ug/L | | 89 | 20 - 180 | 4 | 40 |
| Chloroethane | | | 50.0 | 44.9 | | ug/L | | 90 | 50 - 151 | 0 | 30 |
| Trichlorofluoromethane | | | 50.0 | 49.8 | | ug/L | | 100 | 58 - 145 | 0 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 53.4 | | ug/L | | 107 | 74 - 125 | 1 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 52.6 | | ug/L | | 105 | 65 - 131 | 1 | 30 |
| Acetone | | | 250 | 270 | | ug/L | | 108 | 60 - 154 | 2 | 40 |
| Carbon disulfide | | | 50.0 | 51.7 | | ug/L | | 103 | 73 - 127 | 1 | 20 |
| Methyl acetate | | | 250 | 270 | | ug/L | | 108 | 66 - 134 | 2 | 30 |
| Methylene Chloride | | | 50.0 | 50.4 | | ug/L | | 101 | 76 - 129 | 0 | 20 |
| trans-1,2-Dichloroethene | | | 50.0 | 50.8 | | ug/L | | 102 | 78 - 123 | 1 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 52.2 | | ug/L | | 104 | 74 - 135 | 1 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 53.0 | | ug/L | | 106 | 80 - 120 | 3 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 53.4 | | ug/L | | 107 | 80 - 122 | 4 | 20 |
| 2-Butanone | | | 250 | 272 | | ug/L | | 109 | 75 - 133 | 0 | 30 |
| Chloroform | | | 50.0 | 51.8 | | ug/L | | 104 | 79 - 122 | 1 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 51.4 | | ug/L | | 103 | 74 - 128 | 4 | 20 |
| Cyclohexane | | | 50.0 | 51.9 | | ug/L | | 104 | 69 - 130 | 2 | 30 |
| Carbon tetrachloride | | | 50.0 | 52.1 | | ug/L | | 104 | 75 - 130 | 2 | 20 |
| Benzene | | | 50.0 | 51.7 | | ug/L | | 103 | 73 - 131 | 1 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 51.7 | | ug/L | | 103 | 75 - 130 | 1 | 20 |
| Trichloroethene | | | 50.0 | 50.3 | | ug/L | | 101 | 80 - 123 | 1 | 20 |
| Methylcyclohexane | | | 50.0 | 52.7 | | ug/L | | 105 | 75 - 127 | 1 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 51.1 | | ug/L | | 102 | 80 - 123 | 1 | 20 |
| Bromodichloromethane | | | 50.0 | 51.4 | | ug/L | | 103 | 77 - 129 | 1 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 52.9 | | ug/L | | 106 | 80 - 133 | 0 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 280 | | ug/L | | 112 | 75 - 135 | 1 | 30 |
| Toluene | | | 50.0 | 51.0 | | ug/L | | 102 | 80 - 122 | 2 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 55.1 | | ug/L | | 110 | 74 - 140 | 3 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 51.1 | | ug/L | | 102 | 79 - 125 | 1 | 20 |
| Tetrachloroethene | | | 50.0 | 52.4 | | ug/L | | 105 | 77 - 123 | 0 | 20 |
| 2-Hexanone | | | 250 | 286 | | ug/L | | 114 | 70 - 141 | 2 | 40 |
| Dibromochloromethane | | | 50.0 | 52.7 | | ug/L | | 105 | 71 - 136 | 1 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 52.8 | | ug/L | | 106 | 77 - 131 | 0 | 30 |
| Chlorobenzene | | | 50.0 | 48.9 | | ug/L | | 98 | 80 - 120 | 0 | 20 |
| Ethylbenzene | | | 50.0 | 51.2 | | ug/L | | 102 | 80 - 120 | 1 | 20 |
| Xylenes, Total | | | 100 | 104 | | ug/L | | 104 | 80 - 120 | 0 | 20 |
| Styrene | | | 50.0 | 51.9 | | ug/L | | 104 | 80 - 122 | 0 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-429229/5**
**Matrix: Water**
**Analysis Batch: 429229**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromoform | | | 50.0 | 49.9 | | ug/L | | 100 | 69 - 135 | 0 | 20 |
| Isopropylbenzene | | | 50.0 | 52.2 | | ug/L | | 104 | 80 - 120 | 0 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 51.1 | | ug/L | | 102 | 72 - 128 | 2 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 50.7 | | ug/L | | 101 | 80 - 120 | 0 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 49.2 | | ug/L | | 98 | 80 - 120 | 1 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 49.4 | | ug/L | | 99 | 80 - 120 | 1 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 48.8 | | ug/L | | 98 | 59 - 141 | 2 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 48.4 | | ug/L | | 97 | 77 - 131 | 1 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *102* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* |

**Lab Sample ID: MB 680-429438/9**
**Matrix: Water**
**Analysis Batch: 429438**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/17/16 15:45 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/17/16 15:45 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/17/16 15:45 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/17/16 15:45 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/17/16 15:45 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/17/16 15:45 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/17/16 15:45 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/17/16 15:45 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/17/16 15:45 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/17/16 15:45 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/17/16 15:45 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/17/16 15:45 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/17/16 15:45 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/17/16 15:45 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/17/16 15:45 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/17/16 15:45 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/17/16 15:45 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/17/16 15:45 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/17/16 15:45 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/17/16 15:45 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/17/16 15:45 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/17/16 15:45 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-429438/9**
**Matrix: Water**
**Analysis Batch: 429438**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/17/16 15:45 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/17/16 15:45 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/17/16 15:45 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/17/16 15:45 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/17/16 15:45 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/17/16 15:45 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/17/16 15:45 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/17/16 15:45 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/17/16 15:45 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/17/16 15:45 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/17/16 15:45 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/17/16 15:45 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/17/16 15:45 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* | | *04/17/16 15:45* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *91* | | *70 - 130* | | *04/17/16 15:45* | *1* |
| *Dibromofluoromethane (Surr)* | *96* | | *70 - 130* | | *04/17/16 15:45* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | | *04/17/16 15:45* | *1* |

**Lab Sample ID: LCS 680-429438/4**
**Matrix: Water**
**Analysis Batch: 429438**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 42.0 | | ug/L | | 84 | 51 - 140 |
| Chloromethane | 50.0 | 37.4 | | ug/L | | 75 | 63 - 126 |
| Vinyl chloride | 50.0 | 49.0 | | ug/L | | 98 | 68 - 132 |
| Bromomethane | 50.0 | 40.0 | | ug/L | | 80 | 20 - 180 |
| Chloroethane | 50.0 | 47.2 | | ug/L | | 94 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 45.0 | | ug/L | | 90 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 50.8 | | ug/L | | 102 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 53.1 | | ug/L | | 106 | 65 - 131 |
| Acetone | 250 | 253 | | ug/L | | 101 | 60 - 154 |
| Carbon disulfide | 50.0 | 48.8 | | ug/L | | 98 | 73 - 127 |
| Methyl acetate | 250 | 257 | | ug/L | | 103 | 66 - 134 |
| Methylene Chloride | 50.0 | 53.1 | | ug/L | | 106 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 53.0 | | ug/L | | 106 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 52.3 | | ug/L | | 105 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 51.7 | | ug/L | | 103 | 80 - 120 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-429438/4**
**Matrix: Water**
**Analysis Batch: 429438**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 50.0 | 51.7 | | ug/L | | 103 | 80 - 122 |
| 2-Butanone | 250 | 268 | | ug/L | | 107 | 75 - 133 |
| Chloroform | 50.0 | 51.5 | | ug/L | | 103 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 53.1 | | ug/L | | 106 | 74 - 128 |
| Cyclohexane | 50.0 | 50.7 | | ug/L | | 101 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 54.2 | | ug/L | | 108 | 75 - 130 |
| Benzene | 50.0 | 51.4 | | ug/L | | 103 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 50.0 | | ug/L | | 100 | 75 - 130 |
| Trichloroethene | 50.0 | 51.6 | | ug/L | | 103 | 80 - 123 |
| Methylcyclohexane | 50.0 | 54.0 | | ug/L | | 108 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 53.3 | | ug/L | | 107 | 80 - 123 |
| Bromodichloromethane | 50.0 | 54.0 | | ug/L | | 108 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 56.0 | | ug/L | | 112 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 265 | | ug/L | | 106 | 75 - 135 |
| Toluene | 50.0 | 53.3 | | ug/L | | 107 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 56.7 | | ug/L | | 113 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 54.5 | | ug/L | | 109 | 79 - 125 |
| Tetrachloroethene | 50.0 | 54.7 | | ug/L | | 109 | 77 - 123 |
| 2-Hexanone | 250 | 270 | | ug/L | | 108 | 70 - 141 |
| Dibromochloromethane | 50.0 | 52.2 | | ug/L | | 104 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 55.7 | | ug/L | | 111 | 77 - 131 |
| Chlorobenzene | 50.0 | 52.7 | | ug/L | | 105 | 80 - 120 |
| Ethylbenzene | 50.0 | 52.8 | | ug/L | | 106 | 80 - 120 |
| Xylenes, Total | 100 | 106 | | ug/L | | 106 | 80 - 120 |
| Styrene | 50.0 | 55.5 | | ug/L | | 111 | 80 - 122 |
| Bromoform | 50.0 | 47.1 | | ug/L | | 94 | 69 - 135 |
| Isopropylbenzene | 50.0 | 55.1 | | ug/L | | 110 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 50.6 | | ug/L | | 101 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 50.8 | | ug/L | | 102 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 49.5 | | ug/L | | 99 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 51.6 | | ug/L | | 103 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 54.0 | | ug/L | | 108 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 53.8 | | ug/L | | 108 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *108* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |

**Lab Sample ID: LCSD 680-429438/5**
**Matrix: Water**
**Analysis Batch: 429438**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 45.4 | | ug/L | | 91 | 51 - 140 | 8 | 40 |
| Chloromethane | 50.0 | 39.8 | | ug/L | | 80 | 63 - 126 | 6 | 30 |
| Vinyl chloride | 50.0 | 53.3 | | ug/L | | 107 | 68 - 132 | 8 | 30 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-429438/5**
**Matrix: Water**
**Analysis Batch: 429438**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromomethane | | | 50.0 | 35.2 | | ug/L | | 70 | 20 - 180 | 13 | 40 |
| Chloroethane | | | 50.0 | 48.8 | | ug/L | | 98 | 50 - 151 | 3 | 30 |
| Trichlorofluoromethane | | | 50.0 | 51.4 | | ug/L | | 103 | 58 - 145 | 13 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 53.9 | | ug/L | | 108 | 74 - 125 | 6 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 57.2 | | ug/L | | 114 | 65 - 131 | 7 | 30 |
| Acetone | | | 250 | 213 | | ug/L | | 85 | 60 - 154 | 17 | 40 |
| Carbon disulfide | | | 50.0 | 51.7 | | ug/L | | 103 | 73 - 127 | 6 | 20 |
| Methyl acetate | | | 250 | 227 | | ug/L | | 91 | 66 - 134 | 13 | 30 |
| Methylene Chloride | | | 50.0 | 53.2 | | ug/L | | 106 | 76 - 129 | 0 | 20 |
| trans-1,2-Dichloroethene | | | 50.0 | 54.3 | | ug/L | | 109 | 78 - 123 | 2 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 48.0 | | ug/L | | 96 | 74 - 135 | 9 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 51.7 | | ug/L | | 103 | 80 - 120 | 0 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 52.0 | | ug/L | | 104 | 80 - 122 | 1 | 20 |
| 2-Butanone | | | 250 | 240 | | ug/L | | 96 | 75 - 133 | 11 | 30 |
| Chloroform | | | 50.0 | 51.6 | | ug/L | | 103 | 79 - 122 | 0 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 54.7 | | ug/L | | 109 | 74 - 128 | 3 | 20 |
| Cyclohexane | | | 50.0 | 54.6 | | ug/L | | 109 | 69 - 130 | 7 | 30 |
| Carbon tetrachloride | | | 50.0 | 57.4 | | ug/L | | 115 | 75 - 130 | 6 | 20 |
| Benzene | | | 50.0 | 51.8 | | ug/L | | 104 | 73 - 131 | 1 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 46.9 | | ug/L | | 94 | 75 - 130 | 6 | 20 |
| Trichloroethene | | | 50.0 | 52.8 | | ug/L | | 106 | 80 - 123 | 2 | 20 |
| Methylcyclohexane | | | 50.0 | 56.5 | | ug/L | | 113 | 75 - 127 | 5 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 51.7 | | ug/L | | 103 | 80 - 123 | 3 | 20 |
| Bromodichloromethane | | | 50.0 | 53.1 | | ug/L | | 106 | 77 - 129 | 2 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 53.3 | | ug/L | | 107 | 80 - 133 | 5 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 233 | | ug/L | | 93 | 75 - 135 | 13 | 30 |
| Toluene | | | 50.0 | 53.7 | | ug/L | | 107 | 80 - 122 | 1 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 53.0 | | ug/L | | 106 | 74 - 140 | 7 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 51.2 | | ug/L | | 102 | 79 - 125 | 6 | 20 |
| Tetrachloroethene | | | 50.0 | 57.5 | | ug/L | | 115 | 77 - 123 | 5 | 20 |
| 2-Hexanone | | | 250 | 234 | | ug/L | | 94 | 70 - 141 | 14 | 40 |
| Dibromochloromethane | | | 50.0 | 49.3 | | ug/L | | 99 | 71 - 136 | 6 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 51.6 | | ug/L | | 103 | 77 - 131 | 8 | 30 |
| Chlorobenzene | | | 50.0 | 53.4 | | ug/L | | 107 | 80 - 120 | 1 | 20 |
| Ethylbenzene | | | 50.0 | 55.4 | | ug/L | | 111 | 80 - 120 | 5 | 20 |
| Xylenes, Total | | | 100 | 110 | | ug/L | | 110 | 80 - 120 | 3 | 20 |
| Styrene | | | 50.0 | 56.2 | | ug/L | | 112 | 80 - 122 | 1 | 20 |
| Bromoform | | | 50.0 | 44.8 | | ug/L | | 90 | 69 - 135 | 5 | 20 |
| Isopropylbenzene | | | 50.0 | 58.0 | | ug/L | | 116 | 80 - 120 | 5 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 47.2 | | ug/L | | 94 | 72 - 128 | 7 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 51.8 | | ug/L | | 104 | 80 - 120 | 2 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 49.8 | | ug/L | | 100 | 80 - 120 | 1 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 51.9 | | ug/L | | 104 | 80 - 120 | 1 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 49.3 | | ug/L | | 99 | 59 - 141 | 9 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 53.9 | | ug/L | | 108 | 77 - 131 | 0 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-429438/5**
**Matrix: Water**
**Analysis Batch: 429438**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *109* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *105* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |

**Lab Sample ID: MB 680-429447/9**
**Matrix: Water**
**Analysis Batch: 429447**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/18/16 11:00 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 11:00 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 11:00 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 11:00 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 11:00 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 11:00 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/18/16 11:00 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/18/16 11:00 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/18/16 11:00 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 11:00 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 11:00 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/18/16 11:00 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/18/16 11:00 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/18/16 11:00 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 11:00 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/18/16 11:00 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 11:00 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 11:00 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 11:00 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/18/16 11:00 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 11:00 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 11:00 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/18/16 11:00 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 11:00 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 11:00 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/18/16 11:00 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/18/16 11:00 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 11:00 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/18/16 11:00 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 11:00 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-429447/9**
**Matrix: Water**
**Analysis Batch: 429447**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/18/16 11:00 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/18/16 11:00 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 11:00 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/18/16 11:00 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 11:00 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *70 - 130* | | *04/18/16 11:00* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *70 - 130* | | *04/18/16 11:00* | *1* |
| *Dibromofluoromethane (Surr)* | *95* | | *70 - 130* | | *04/18/16 11:00* | *1* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | | *04/18/16 11:00* | *1* |

**Lab Sample ID: LCS 680-429447/4**
**Matrix: Water**
**Analysis Batch: 429447**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 35.8 | | ug/L | | 72 | 51 - 140 |
| Chloromethane | 50.0 | 43.3 | | ug/L | | 87 | 63 - 126 |
| Vinyl chloride | 50.0 | 54.0 | | ug/L | | 108 | 68 - 132 |
| Bromomethane | 50.0 | 41.1 | | ug/L | | 82 | 20 - 180 |
| Chloroethane | 50.0 | 50.5 | | ug/L | | 101 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 50.4 | | ug/L | | 101 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 53.1 | | ug/L | | 106 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 54.8 | | ug/L | | 110 | 65 - 131 |
| Acetone | 250 | 251 | | ug/L | | 100 | 60 - 154 |
| Carbon disulfide | 50.0 | 51.8 | | ug/L | | 104 | 73 - 127 |
| Methyl acetate | 250 | 248 | | ug/L | | 99 | 66 - 134 |
| Methylene Chloride | 50.0 | 53.6 | | ug/L | | 107 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 55.4 | | ug/L | | 111 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 51.2 | | ug/L | | 102 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 51.2 | | ug/L | | 102 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 52.0 | | ug/L | | 104 | 80 - 122 |
| 2-Butanone | 250 | 254 | | ug/L | | 102 | 75 - 133 |
| Chloroform | 50.0 | 51.7 | | ug/L | | 103 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 52.8 | | ug/L | | 106 | 74 - 128 |
| Cyclohexane | 50.0 | 51.8 | | ug/L | | 104 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 55.4 | | ug/L | | 111 | 75 - 130 |
| Benzene | 50.0 | 51.4 | | ug/L | | 103 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 48.6 | | ug/L | | 97 | 75 - 130 |
| Trichloroethene | 50.0 | 53.2 | | ug/L | | 106 | 80 - 123 |
| Methylcyclohexane | 50.0 | 53.7 | | ug/L | | 107 | 75 - 127 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-429447/4**
**Matrix: Water**
**Analysis Batch: 429447**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | 50.0 | 53.0 | | ug/L | | 106 | 80 - 123 |
| Bromodichloromethane | 50.0 | 53.0 | | ug/L | | 106 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 54.5 | | ug/L | | 109 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 252 | | ug/L | | 101 | 75 - 135 |
| Toluene | 50.0 | 53.8 | | ug/L | | 108 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 53.1 | | ug/L | | 106 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 51.1 | | ug/L | | 102 | 79 - 125 |
| Tetrachloroethene | 50.0 | 55.0 | | ug/L | | 110 | 77 - 123 |
| 2-Hexanone | 250 | 256 | | ug/L | | 103 | 70 - 141 |
| Dibromochloromethane | 50.0 | 48.2 | | ug/L | | 96 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 54.5 | | ug/L | | 109 | 77 - 131 |
| Chlorobenzene | 50.0 | 53.7 | | ug/L | | 107 | 80 - 120 |
| Ethylbenzene | 50.0 | 54.6 | | ug/L | | 109 | 80 - 120 |
| Xylenes, Total | 100 | 109 | | ug/L | | 109 | 80 - 120 |
| Styrene | 50.0 | 54.3 | | ug/L | | 109 | 80 - 122 |
| Bromoform | 50.0 | 47.5 | | ug/L | | 95 | 69 - 135 |
| Isopropylbenzene | 50.0 | 57.2 | | ug/L | | 114 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 52.0 | | ug/L | | 104 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 52.5 | | ug/L | | 105 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 51.0 | | ug/L | | 102 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 52.3 | | ug/L | | 105 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 54.6 | | ug/L | | 109 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 54.7 | | ug/L | | 109 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *107* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* |

**Lab Sample ID: LCSD 680-429447/5**
**Matrix: Water**
**Analysis Batch: 429447**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 37.1 | | ug/L | | 74 | 51 - 140 | 3 | 40 |
| Chloromethane | 50.0 | 42.8 | | ug/L | | 86 | 63 - 126 | 1 | 30 |
| Vinyl chloride | 50.0 | 53.8 | | ug/L | | 108 | 68 - 132 | 1 | 30 |
| Bromomethane | 50.0 | 43.8 | | ug/L | | 88 | 20 - 180 | 6 | 40 |
| Chloroethane | 50.0 | 50.2 | | ug/L | | 100 | 50 - 151 | 0 | 30 |
| Trichlorofluoromethane | 50.0 | 49.2 | | ug/L | | 98 | 58 - 145 | 2 | 30 |
| 1,1-Dichloroethene | 50.0 | 50.7 | | ug/L | | 101 | 74 - 125 | 5 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 55.2 | | ug/L | | 110 | 65 - 131 | 1 | 30 |
| Acetone | 250 | 246 | | ug/L | | 99 | 60 - 154 | 2 | 40 |
| Carbon disulfide | 50.0 | 51.1 | | ug/L | | 102 | 73 - 127 | 1 | 20 |
| Methyl acetate | 250 | 250 | | ug/L | | 100 | 66 - 134 | 1 | 30 |
| Methylene Chloride | 50.0 | 53.6 | | ug/L | | 107 | 76 - 129 | 0 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-429447/5**
**Matrix: Water**
**Analysis Batch: 429447**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| trans-1,2-Dichloroethene | | | 50.0 | 56.3 | | ug/L | | 113 | 78 - 123 | 2 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 52.1 | | ug/L | | 104 | 74 - 135 | 2 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 51.2 | | ug/L | | 102 | 80 - 120 | 0 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 52.8 | | ug/L | | 106 | 80 - 122 | 2 | 20 |
| 2-Butanone | | | 250 | 261 | | ug/L | | 104 | 75 - 133 | 3 | 30 |
| Chloroform | | | 50.0 | 52.5 | | ug/L | | 105 | 79 - 122 | 2 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 53.1 | | ug/L | | 106 | 74 - 128 | 1 | 20 |
| Cyclohexane | | | 50.0 | 52.5 | | ug/L | | 105 | 69 - 130 | 1 | 30 |
| Carbon tetrachloride | | | 50.0 | 55.8 | | ug/L | | 112 | 75 - 130 | 1 | 20 |
| Benzene | | | 50.0 | 52.0 | | ug/L | | 104 | 73 - 131 | 1 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 49.2 | | ug/L | | 98 | 75 - 130 | 1 | 20 |
| Trichloroethene | | | 50.0 | 53.5 | | ug/L | | 107 | 80 - 123 | 1 | 20 |
| Methylcyclohexane | | | 50.0 | 53.2 | | ug/L | | 106 | 75 - 127 | 1 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 53.7 | | ug/L | | 107 | 80 - 123 | 1 | 20 |
| Bromodichloromethane | | | 50.0 | 54.5 | | ug/L | | 109 | 77 - 129 | 3 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 55.5 | | ug/L | | 111 | 80 - 133 | 2 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 256 | | ug/L | | 102 | 75 - 135 | 1 | 30 |
| Toluene | | | 50.0 | 53.9 | | ug/L | | 108 | 80 - 122 | 0 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 54.3 | | ug/L | | 109 | 74 - 140 | 2 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 53.0 | | ug/L | | 106 | 79 - 125 | 4 | 20 |
| Tetrachloroethene | | | 50.0 | 54.5 | | ug/L | | 109 | 77 - 123 | 1 | 20 |
| 2-Hexanone | | | 250 | 261 | | ug/L | | 104 | 70 - 141 | 2 | 40 |
| Dibromochloromethane | | | 50.0 | 49.9 | | ug/L | | 100 | 71 - 136 | 3 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 56.1 | | ug/L | | 112 | 77 - 131 | 3 | 30 |
| Chlorobenzene | | | 50.0 | 53.5 | | ug/L | | 107 | 80 - 120 | 0 | 20 |
| Ethylbenzene | | | 50.0 | 53.8 | | ug/L | | 108 | 80 - 120 | 1 | 20 |
| Xylenes, Total | | | 100 | 108 | | ug/L | | 108 | 80 - 120 | 1 | 20 |
| Styrene | | | 50.0 | 54.8 | | ug/L | | 110 | 80 - 122 | 1 | 20 |
| Bromoform | | | 50.0 | 47.9 | | ug/L | | 96 | 69 - 135 | 1 | 20 |
| Isopropylbenzene | | | 50.0 | 56.1 | | ug/L | | 112 | 80 - 120 | 2 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 51.7 | | ug/L | | 103 | 72 - 128 | 1 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 52.6 | | ug/L | | 105 | 80 - 120 | 0 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 52.0 | | ug/L | | 104 | 80 - 120 | 2 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 53.0 | | ug/L | | 106 | 80 - 120 | 1 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 54.6 | | ug/L | | 109 | 59 - 141 | 0 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 54.3 | | ug/L | | 109 | 77 - 131 | 1 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *106* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *105* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LB 680-429163/1-A**
**Matrix: Water**
**Analysis Batch: 429452**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | LB Result | LB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <12 | | 20 | 12 | ug/L | | | 04/18/16 14:28 | 20 |
| Chloromethane | <8.0 | | 20 | 8.0 | ug/L | | | 04/18/16 14:28 | 20 |
| Vinyl chloride | <10 | | 20 | 10 | ug/L | | | 04/18/16 14:28 | 20 |
| Bromomethane | <50 | | 100 | 50 | ug/L | | | 04/18/16 14:28 | 20 |
| Chloroethane | <50 | | 100 | 50 | ug/L | | | 04/18/16 14:28 | 20 |
| Trichlorofluoromethane | <8.4 | | 20 | 8.4 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,1-Dichloroethene | <7.2 | | 20 | 7.2 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <7.2 | | 20 | 7.2 | ug/L | | | 04/18/16 14:28 | 20 |
| Acetone | <140 | | 200 | 140 | ug/L | | | 04/18/16 14:28 | 20 |
| Carbon disulfide | <20 | | 40 | 20 | ug/L | | | 04/18/16 14:28 | 20 |
| Methyl acetate | <36 | | 100 | 36 | ug/L | | | 04/18/16 14:28 | 20 |
| Methylene Chloride | <50 | | 100 | 50 | ug/L | | | 04/18/16 14:28 | 20 |
| trans-1,2-Dichloroethene | <7.4 | | 20 | 7.4 | ug/L | | | 04/18/16 14:28 | 20 |
| Methyl tert-butyl ether | <6.0 | | 200 | 6.0 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,1-Dichloroethane | <7.6 | | 20 | 7.6 | ug/L | | | 04/18/16 14:28 | 20 |
| cis-1,2-Dichloroethene | <8.2 | | 20 | 8.2 | ug/L | | | 04/18/16 14:28 | 20 |
| 2-Butanone | <68 | | 200 | 68 | ug/L | | | 04/18/16 14:28 | 20 |
| Chloroform | <10 | | 20 | 10 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,1,1-Trichloroethane | <7.4 | | 20 | 7.4 | ug/L | | | 04/18/16 14:28 | 20 |
| Cyclohexane | <7.8 | | 20 | 7.8 | ug/L | | | 04/18/16 14:28 | 20 |
| Carbon tetrachloride | <6.6 | | 20 | 6.6 | ug/L | | | 04/18/16 14:28 | 20 |
| Benzene | <8.6 | | 20 | 8.6 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,2-Dichloroethane | <10 | | 20 | 10 | ug/L | | | 04/18/16 14:28 | 20 |
| Trichloroethene | <9.6 | | 20 | 9.6 | ug/L | | | 04/18/16 14:28 | 20 |
| Methylcyclohexane | <8.6 | | 20 | 8.6 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,2-Dichloropropane | <13 | | 20 | 13 | ug/L | | | 04/18/16 14:28 | 20 |
| Bromodichloromethane | <8.8 | | 20 | 8.8 | ug/L | | | 04/18/16 14:28 | 20 |
| cis-1,3-Dichloropropene | <8.0 | | 20 | 8.0 | ug/L | | | 04/18/16 14:28 | 20 |
| 4-Methyl-2-pentanone | <42 | | 200 | 42 | ug/L | | | 04/18/16 14:28 | 20 |
| Toluene | <9.6 | | 20 | 9.6 | ug/L | | | 04/18/16 14:28 | 20 |
| trans-1,3-Dichloropropene | <8.4 | | 20 | 8.4 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,1,2-Trichloroethane | <6.6 | | 20 | 6.6 | ug/L | | | 04/18/16 14:28 | 20 |
| Tetrachloroethene | <15 | | 20 | 15 | ug/L | | | 04/18/16 14:28 | 20 |
| 2-Hexanone | <40 | | 200 | 40 | ug/L | | | 04/18/16 14:28 | 20 |
| Dibromochloromethane | <6.4 | | 20 | 6.4 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,2-Dibromoethane | <8.8 | | 20 | 8.8 | ug/L | | | 04/18/16 14:28 | 20 |
| Chlorobenzene | <5.2 | | 20 | 5.2 | ug/L | | | 04/18/16 14:28 | 20 |
| Ethylbenzene | <6.6 | | 20 | 6.6 | ug/L | | | 04/18/16 14:28 | 20 |
| Xylenes, Total | <4.6 | | 20 | 4.6 | ug/L | | | 04/18/16 14:28 | 20 |
| Styrene | <5.4 | | 20 | 5.4 | ug/L | | | 04/18/16 14:28 | 20 |
| Bromoform | <8.6 | | 20 | 8.6 | ug/L | | | 04/18/16 14:28 | 20 |
| Isopropylbenzene | <7.0 | | 20 | 7.0 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,1,2,2-Tetrachloroethane | <12 | | 20 | 12 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,3-Dichlorobenzene | <8.6 | | 20 | 8.6 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,4-Dichlorobenzene | <9.2 | | 20 | 9.2 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,2-Dichlorobenzene | <7.4 | | 20 | 7.4 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,2-Dibromo-3-Chloropropane | <22 | | 100 | 22 | ug/L | | | 04/18/16 14:28 | 20 |
| 1,2,4-Trichlorobenzene | <50 | | 100 | 50 | ug/L | | | 04/18/16 14:28 | 20 |

| Surrogate | LB %Recovery | LB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *96* | | *70 - 130* | | *04/18/16 14:28* | *20* |
| *1,2-Dichloroethane-d4 (Surr)* | *111* | | *70 - 130* | | *04/18/16 14:28* | *20* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* | | *04/18/16 14:28* | *20* |
| *4-Bromofluorobenzene (Surr)* | *105* | | *70 - 130* | | *04/18/16 14:28* | *20* |

**Lab Sample ID: MB 680-429452/8**
**Matrix: Water**
**Analysis Batch: 429452**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/18/16 10:37 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 10:37 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 10:37 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 10:37 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 10:37 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/18/16 10:37 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/18/16 10:37 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/18/16 10:37 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/18/16 10:37 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 10:37 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 10:37 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/18/16 10:37 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/18/16 10:37 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/18/16 10:37 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 10:37 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/18/16 10:37 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 10:37 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/18/16 10:37 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 10:37 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/18/16 10:37 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 10:37 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/18/16 10:37 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/18/16 10:37 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/18/16 10:37 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 10:37 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/18/16 10:37 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/18/16 10:37 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/18/16 10:37 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/18/16 10:37 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/18/16 10:37 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/18/16 10:37 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/18/16 10:37 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 10:37 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/18/16 10:37 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-429452/8**
**Matrix: Water**
**Analysis Batch: 429452**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/18/16 10:37 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/18/16 10:37 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/18/16 10:37* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *99* | | *70 - 130* | | *04/18/16 10:37* | *1* |
| *Dibromofluoromethane (Surr)* | *95* | | *70 - 130* | | *04/18/16 10:37* | *1* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | | *04/18/16 10:37* | *1* |

**Lab Sample ID: LCS 680-429452/4**
**Matrix: Water**
**Analysis Batch: 429452**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 33.2 | | ug/L | | 66 | 51 - 140 |
| Chloromethane | 50.0 | 42.7 | | ug/L | | 85 | 63 - 126 |
| Vinyl chloride | 50.0 | 46.3 | | ug/L | | 93 | 68 - 132 |
| Bromomethane | 50.0 | 39.7 | | ug/L | | 79 | 20 - 180 |
| Chloroethane | 50.0 | 44.4 | | ug/L | | 89 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 49.3 | | ug/L | | 99 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 53.1 | | ug/L | | 106 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 51.0 | | ug/L | | 102 | 65 - 131 |
| Acetone | 250 | 300 | | ug/L | | 120 | 60 - 154 |
| Carbon disulfide | 50.0 | 50.8 | | ug/L | | 102 | 73 - 127 |
| Methyl acetate | 250 | 287 | | ug/L | | 115 | 66 - 134 |
| Methylene Chloride | 50.0 | 51.8 | | ug/L | | 104 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 52.3 | | ug/L | | 105 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 54.2 | | ug/L | | 108 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 53.1 | | ug/L | | 106 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 55.9 | | ug/L | | 112 | 80 - 122 |
| 2-Butanone | 250 | 283 | | ug/L | | 113 | 75 - 133 |
| Chloroform | 50.0 | 52.9 | | ug/L | | 106 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 52.8 | | ug/L | | 106 | 74 - 128 |
| Cyclohexane | 50.0 | 52.4 | | ug/L | | 105 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 53.3 | | ug/L | | 107 | 75 - 130 |
| Benzene | 50.0 | 52.9 | | ug/L | | 106 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 54.3 | | ug/L | | 109 | 75 - 130 |
| Trichloroethene | 50.0 | 51.3 | | ug/L | | 103 | 80 - 123 |
| Methylcyclohexane | 50.0 | 53.4 | | ug/L | | 107 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 55.2 | | ug/L | | 110 | 80 - 123 |
| Bromodichloromethane | 50.0 | 53.2 | | ug/L | | 106 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 56.1 | | ug/L | | 112 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 295 | | ug/L | | 118 | 75 - 135 |
| Toluene | 50.0 | 51.9 | | ug/L | | 104 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 56.8 | | ug/L | | 114 | 74 - 140 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-429452/4**
**Matrix: Water**
**Analysis Batch: 429452**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloroethane | 50.0 | 52.5 | | ug/L | | 105 | 79 - 125 |
| Tetrachloroethene | 50.0 | 52.7 | | ug/L | | 105 | 77 - 123 |
| 2-Hexanone | 250 | 298 | | ug/L | | 119 | 70 - 141 |
| Dibromochloromethane | 50.0 | 53.9 | | ug/L | | 108 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 56.1 | | ug/L | | 112 | 77 - 131 |
| Chlorobenzene | 50.0 | 49.3 | | ug/L | | 99 | 80 - 120 |
| Ethylbenzene | 50.0 | 51.3 | | ug/L | | 103 | 80 - 120 |
| Xylenes, Total | 100 | 104 | | ug/L | | 104 | 80 - 120 |
| Styrene | 50.0 | 50.8 | | ug/L | | 102 | 80 - 122 |
| Bromoform | 50.0 | 54.8 | | ug/L | | 110 | 69 - 135 |
| Isopropylbenzene | 50.0 | 52.6 | | ug/L | | 105 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 51.7 | | ug/L | | 103 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 50.8 | | ug/L | | 102 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 50.6 | | ug/L | | 101 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 50.4 | | ug/L | | 101 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 52.2 | | ug/L | | 104 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 50.0 | | ug/L | | 100 | 77 - 131 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *104* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *108* | | *70 - 130* |

**Lab Sample ID: LCSD 680-429452/5**
**Matrix: Water**
**Analysis Batch: 429452**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 33.9 | | ug/L | | 68 | 51 - 140 | 2 | 40 |
| Chloromethane | 50.0 | 43.8 | | ug/L | | 88 | 63 - 126 | 2 | 30 |
| Vinyl chloride | 50.0 | 46.2 | | ug/L | | 92 | 68 - 132 | 0 | 30 |
| Bromomethane | 50.0 | 44.9 | | ug/L | | 90 | 20 - 180 | 12 | 40 |
| Chloroethane | 50.0 | 42.1 | | ug/L | | 84 | 50 - 151 | 5 | 30 |
| Trichlorofluoromethane | 50.0 | 47.9 | | ug/L | | 96 | 58 - 145 | 3 | 30 |
| 1,1-Dichloroethene | 50.0 | 51.1 | | ug/L | | 102 | 74 - 125 | 4 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 50.3 | | ug/L | | 101 | 65 - 131 | 1 | 30 |
| Acetone | 250 | 289 | | ug/L | | 115 | 60 - 154 | 4 | 40 |
| Carbon disulfide | 50.0 | 49.9 | | ug/L | | 100 | 73 - 127 | 2 | 20 |
| Methyl acetate | 250 | 268 | | ug/L | | 107 | 66 - 134 | 7 | 30 |
| Methylene Chloride | 50.0 | 49.7 | | ug/L | | 99 | 76 - 129 | 4 | 20 |
| trans-1,2-Dichloroethene | 50.0 | 52.4 | | ug/L | | 105 | 78 - 123 | 0 | 20 |
| Methyl tert-butyl ether | 50.0 | 51.7 | | ug/L | | 103 | 74 - 135 | 5 | 20 |
| 1,1-Dichloroethane | 50.0 | 52.0 | | ug/L | | 104 | 80 - 120 | 2 | 20 |
| cis-1,2-Dichloroethene | 50.0 | 53.7 | | ug/L | | 107 | 80 - 122 | 4 | 20 |
| 2-Butanone | 250 | 261 | | ug/L | | 105 | 75 - 133 | 8 | 30 |
| Chloroform | 50.0 | 51.7 | | ug/L | | 103 | 79 - 122 | 2 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-429452/5**
**Matrix: Water**
**Analysis Batch: 429452**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 50.0 | 50.5 | | ug/L | | 101 | 74 - 128 | 5 | 20 |
| Cyclohexane | 50.0 | 51.9 | | ug/L | | 104 | 69 - 130 | 1 | 30 |
| Carbon tetrachloride | 50.0 | 52.2 | | ug/L | | 104 | 75 - 130 | 2 | 20 |
| Benzene | 50.0 | 51.5 | | ug/L | | 103 | 73 - 131 | 3 | 30 |
| 1,2-Dichloroethane | 50.0 | 50.5 | | ug/L | | 101 | 75 - 130 | 7 | 20 |
| Trichloroethene | 50.0 | 49.6 | | ug/L | | 99 | 80 - 123 | 3 | 20 |
| Methylcyclohexane | 50.0 | 52.1 | | ug/L | | 104 | 75 - 127 | 3 | 30 |
| 1,2-Dichloropropane | 50.0 | 52.8 | | ug/L | | 106 | 80 - 123 | 5 | 20 |
| Bromodichloromethane | 50.0 | 52.0 | | ug/L | | 104 | 77 - 129 | 2 | 20 |
| cis-1,3-Dichloropropene | 50.0 | 53.6 | | ug/L | | 107 | 80 - 133 | 5 | 20 |
| 4-Methyl-2-pentanone | 250 | 278 | | ug/L | | 111 | 75 - 135 | 6 | 30 |
| Toluene | 50.0 | 51.3 | | ug/L | | 103 | 80 - 122 | 1 | 20 |
| trans-1,3-Dichloropropene | 50.0 | 54.1 | | ug/L | | 108 | 74 - 140 | 5 | 20 |
| 1,1,2-Trichloroethane | 50.0 | 51.0 | | ug/L | | 102 | 79 - 125 | 3 | 20 |
| Tetrachloroethene | 50.0 | 51.4 | | ug/L | | 103 | 77 - 123 | 2 | 20 |
| 2-Hexanone | 250 | 282 | | ug/L | | 113 | 70 - 141 | 6 | 40 |
| Dibromochloromethane | 50.0 | 51.0 | | ug/L | | 102 | 71 - 136 | 5 | 20 |
| 1,2-Dibromoethane | 50.0 | 53.8 | | ug/L | | 108 | 77 - 131 | 4 | 30 |
| Chlorobenzene | 50.0 | 48.1 | | ug/L | | 96 | 80 - 120 | 3 | 20 |
| Ethylbenzene | 50.0 | 49.9 | | ug/L | | 100 | 80 - 120 | 3 | 20 |
| Xylenes, Total | 100 | 101 | | ug/L | | 101 | 80 - 120 | 3 | 20 |
| Styrene | 50.0 | 48.5 | | ug/L | | 97 | 80 - 122 | 5 | 20 |
| Bromoform | 50.0 | 51.2 | | ug/L | | 102 | 69 - 135 | 7 | 20 |
| Isopropylbenzene | 50.0 | 50.9 | | ug/L | | 102 | 80 - 120 | 3 | 20 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 49.7 | | ug/L | | 99 | 72 - 128 | 4 | 20 |
| 1,3-Dichlorobenzene | 50.0 | 48.9 | | ug/L | | 98 | 80 - 120 | 4 | 20 |
| 1,4-Dichlorobenzene | 50.0 | 48.7 | | ug/L | | 97 | 80 - 120 | 4 | 20 |
| 1,2-Dichlorobenzene | 50.0 | 48.0 | | ug/L | | 96 | 80 - 120 | 5 | 20 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 48.9 | | ug/L | | 98 | 59 - 141 | 6 | 30 |
| 1,2,4-Trichlorobenzene | 50.0 | 48.7 | | ug/L | | 97 | 77 - 131 | 3 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *102* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *101* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* |

**Lab Sample ID: MB 680-429617/12**
**Matrix: Water**
**Analysis Batch: 429617**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <0.60 | | 1.0 | 0.60 | ug/L | | | 04/19/16 12:12 | 1 |
| Chloromethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/19/16 12:12 | 1 |
| Vinyl chloride | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/19/16 12:12 | 1 |
| Bromomethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/19/16 12:12 | 1 |
| Chloroethane | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/19/16 12:12 | 1 |
| Trichlorofluoromethane | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/19/16 12:12 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 680-429617/12**
**Matrix: Water**
**Analysis Batch: 429617**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | <0.36 | | 1.0 | 0.36 | ug/L | | | 04/19/16 12:12 | 1 |
| Acetone | <7.0 | | 10 | 7.0 | ug/L | | | 04/19/16 12:12 | 1 |
| Carbon disulfide | <1.0 | | 2.0 | 1.0 | ug/L | | | 04/19/16 12:12 | 1 |
| Methyl acetate | <1.8 | | 5.0 | 1.8 | ug/L | | | 04/19/16 12:12 | 1 |
| Methylene Chloride | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/19/16 12:12 | 1 |
| trans-1,2-Dichloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/19/16 12:12 | 1 |
| Methyl tert-butyl ether | <0.30 | | 10 | 0.30 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,1-Dichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 04/19/16 12:12 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 04/19/16 12:12 | 1 |
| 2-Butanone | <3.4 | | 10 | 3.4 | ug/L | | | 04/19/16 12:12 | 1 |
| Chloroform | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,1,1-Trichloroethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/19/16 12:12 | 1 |
| Cyclohexane | <0.39 | | 1.0 | 0.39 | ug/L | | | 04/19/16 12:12 | 1 |
| Carbon tetrachloride | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/19/16 12:12 | 1 |
| Benzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,2-Dichloroethane | <0.50 | | 1.0 | 0.50 | ug/L | | | 04/19/16 12:12 | 1 |
| Trichloroethene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/19/16 12:12 | 1 |
| Methylcyclohexane | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,2-Dichloropropane | <0.67 | | 1.0 | 0.67 | ug/L | | | 04/19/16 12:12 | 1 |
| Bromodichloromethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/19/16 12:12 | 1 |
| cis-1,3-Dichloropropene | <0.40 | | 1.0 | 0.40 | ug/L | | | 04/19/16 12:12 | 1 |
| 4-Methyl-2-pentanone | <2.1 | | 10 | 2.1 | ug/L | | | 04/19/16 12:12 | 1 |
| Toluene | <0.48 | | 1.0 | 0.48 | ug/L | | | 04/19/16 12:12 | 1 |
| trans-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,1,2-Trichloroethane | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/19/16 12:12 | 1 |
| Tetrachloroethene | <0.74 | | 1.0 | 0.74 | ug/L | | | 04/19/16 12:12 | 1 |
| 2-Hexanone | <2.0 | | 10 | 2.0 | ug/L | | | 04/19/16 12:12 | 1 |
| Dibromochloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,2-Dibromoethane | <0.44 | | 1.0 | 0.44 | ug/L | | | 04/19/16 12:12 | 1 |
| Chlorobenzene | <0.26 | | 1.0 | 0.26 | ug/L | | | 04/19/16 12:12 | 1 |
| Ethylbenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 04/19/16 12:12 | 1 |
| Xylenes, Total | <0.23 | | 1.0 | 0.23 | ug/L | | | 04/19/16 12:12 | 1 |
| Styrene | <0.27 | | 1.0 | 0.27 | ug/L | | | 04/19/16 12:12 | 1 |
| Bromoform | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/19/16 12:12 | 1 |
| Isopropylbenzene | <0.35 | | 1.0 | 0.35 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.62 | | 1.0 | 0.62 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,3-Dichlorobenzene | <0.43 | | 1.0 | 0.43 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,4-Dichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,2-Dichlorobenzene | <0.37 | | 1.0 | 0.37 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,2-Dibromo-3-Chloropropane | <1.1 | | 5.0 | 1.1 | ug/L | | | 04/19/16 12:12 | 1 |
| 1,2,4-Trichlorobenzene | <2.5 | | 5.0 | 2.5 | ug/L | | | 04/19/16 12:12 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* | | *04/19/16 12:12* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* | | *04/19/16 12:12* | *1* |
| *Dibromofluoromethane (Surr)* | *93* | | *70 - 130* | | *04/19/16 12:12* | *1* |
| *4-Bromofluorobenzene (Surr)* | *108* | | *70 - 130* | | *04/19/16 12:12* | *1* |

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

**Lab Sample ID: LCS 680-429617/4**
**Matrix: Water**
**Analysis Batch: 429617**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50.0 | 32.5 | | ug/L | | 65 | 51 - 140 |
| Chloromethane | 50.0 | 43.4 | | ug/L | | 87 | 63 - 126 |
| Vinyl chloride | 50.0 | 45.2 | | ug/L | | 90 | 68 - 132 |
| Bromomethane | 50.0 | 33.3 | | ug/L | | 67 | 20 - 180 |
| Chloroethane | 50.0 | 36.8 | | ug/L | | 74 | 50 - 151 |
| Trichlorofluoromethane | 50.0 | 43.9 | | ug/L | | 88 | 58 - 145 |
| 1,1-Dichloroethene | 50.0 | 49.2 | | ug/L | | 98 | 74 - 125 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.0 | 47.0 | | ug/L | | 94 | 65 - 131 |
| Acetone | 250 | 303 | | ug/L | | 121 | 60 - 154 |
| Carbon disulfide | 50.0 | 48.2 | | ug/L | | 96 | 73 - 127 |
| Methyl acetate | 250 | 284 | | ug/L | | 114 | 66 - 134 |
| Methylene Chloride | 50.0 | 49.2 | | ug/L | | 98 | 76 - 129 |
| trans-1,2-Dichloroethene | 50.0 | 51.6 | | ug/L | | 103 | 78 - 123 |
| Methyl tert-butyl ether | 50.0 | 52.2 | | ug/L | | 104 | 74 - 135 |
| 1,1-Dichloroethane | 50.0 | 51.4 | | ug/L | | 103 | 80 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 54.5 | | ug/L | | 109 | 80 - 122 |
| 2-Butanone | 250 | 274 | | ug/L | | 109 | 75 - 133 |
| Chloroform | 50.0 | 51.0 | | ug/L | | 102 | 79 - 122 |
| 1,1,1-Trichloroethane | 50.0 | 48.6 | | ug/L | | 97 | 74 - 128 |
| Cyclohexane | 50.0 | 50.8 | | ug/L | | 102 | 69 - 130 |
| Carbon tetrachloride | 50.0 | 49.6 | | ug/L | | 99 | 75 - 130 |
| Benzene | 50.0 | 52.4 | | ug/L | | 105 | 73 - 131 |
| 1,2-Dichloroethane | 50.0 | 51.0 | | ug/L | | 102 | 75 - 130 |
| Trichloroethene | 50.0 | 49.4 | | ug/L | | 99 | 80 - 123 |
| Methylcyclohexane | 50.0 | 52.1 | | ug/L | | 104 | 75 - 127 |
| 1,2-Dichloropropane | 50.0 | 56.8 | | ug/L | | 114 | 80 - 123 |
| Bromodichloromethane | 50.0 | 51.4 | | ug/L | | 103 | 77 - 129 |
| cis-1,3-Dichloropropene | 50.0 | 55.1 | | ug/L | | 110 | 80 - 133 |
| 4-Methyl-2-pentanone | 250 | 291 | | ug/L | | 117 | 75 - 135 |
| Toluene | 50.0 | 51.2 | | ug/L | | 102 | 80 - 122 |
| trans-1,3-Dichloropropene | 50.0 | 54.6 | | ug/L | | 109 | 74 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 51.6 | | ug/L | | 103 | 79 - 125 |
| Tetrachloroethene | 50.0 | 48.4 | | ug/L | | 97 | 77 - 123 |
| 2-Hexanone | 250 | 295 | | ug/L | | 118 | 70 - 141 |
| Dibromochloromethane | 50.0 | 50.0 | | ug/L | | 100 | 71 - 136 |
| 1,2-Dibromoethane | 50.0 | 53.6 | | ug/L | | 107 | 77 - 131 |
| Chlorobenzene | 50.0 | 48.2 | | ug/L | | 96 | 80 - 120 |
| Ethylbenzene | 50.0 | 49.9 | | ug/L | | 100 | 80 - 120 |
| Xylenes, Total | 100 | 100 | | ug/L | | 100 | 80 - 120 |
| Styrene | 50.0 | 48.5 | | ug/L | | 97 | 80 - 122 |
| Bromoform | 50.0 | 44.8 | | ug/L | | 90 | 69 - 135 |
| Isopropylbenzene | 50.0 | 47.3 | | ug/L | | 95 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 48.2 | | ug/L | | 96 | 72 - 128 |
| 1,3-Dichlorobenzene | 50.0 | 50.2 | | ug/L | | 100 | 80 - 120 |
| 1,4-Dichlorobenzene | 50.0 | 49.6 | | ug/L | | 99 | 80 - 120 |
| 1,2-Dichlorobenzene | 50.0 | 48.2 | | ug/L | | 96 | 80 - 120 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 49.9 | | ug/L | | 100 | 59 - 141 |
| 1,2,4-Trichlorobenzene | 50.0 | 49.8 | | ug/L | | 100 | 77 - 131 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 680-429617/4**
**Matrix: Water**
**Analysis Batch: 429617**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *100* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* |

**Lab Sample ID: LCSD 680-429617/5**
**Matrix: Water**
**Analysis Batch: 429617**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | | | 50.0 | 33.2 | | ug/L | | 66 | 51 - 140 | 2 | 40 |
| Chloromethane | | | 50.0 | 43.5 | | ug/L | | 87 | 63 - 126 | 0 | 30 |
| Vinyl chloride | | | 50.0 | 46.6 | | ug/L | | 93 | 68 - 132 | 3 | 30 |
| Bromomethane | | | 50.0 | 32.8 | | ug/L | | 66 | 20 - 180 | 2 | 40 |
| Chloroethane | | | 50.0 | 40.0 | | ug/L | | 80 | 50 - 151 | 8 | 30 |
| Trichlorofluoromethane | | | 50.0 | 45.4 | | ug/L | | 91 | 58 - 145 | 3 | 30 |
| 1,1-Dichloroethene | | | 50.0 | 48.4 | | ug/L | | 97 | 74 - 125 | 2 | 20 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | 50.0 | 48.4 | | ug/L | | 97 | 65 - 131 | 3 | 30 |
| Acetone | | | 250 | 297 | | ug/L | | 119 | 60 - 154 | 2 | 40 |
| Carbon disulfide | | | 50.0 | 49.7 | | ug/L | | 99 | 73 - 127 | 3 | 20 |
| Methyl acetate | | | 250 | 274 | | ug/L | | 109 | 66 - 134 | 4 | 30 |
| Methylene Chloride | | | 50.0 | 50.8 | | ug/L | | 102 | 76 - 129 | 3 | 20 |
| trans-1,2-Dichloroethene | | | 50.0 | 51.8 | | ug/L | | 104 | 78 - 123 | 0 | 20 |
| Methyl tert-butyl ether | | | 50.0 | 51.1 | | ug/L | | 102 | 74 - 135 | 2 | 20 |
| 1,1-Dichloroethane | | | 50.0 | 51.7 | | ug/L | | 103 | 80 - 120 | 1 | 20 |
| cis-1,2-Dichloroethene | | | 50.0 | 54.7 | | ug/L | | 109 | 80 - 122 | 0 | 20 |
| 2-Butanone | | | 250 | 273 | | ug/L | | 109 | 75 - 133 | 0 | 30 |
| Chloroform | | | 50.0 | 50.8 | | ug/L | | 102 | 79 - 122 | 0 | 20 |
| 1,1,1-Trichloroethane | | | 50.0 | 50.6 | | ug/L | | 101 | 74 - 128 | 4 | 20 |
| Cyclohexane | | | 50.0 | 52.1 | | ug/L | | 104 | 69 - 130 | 3 | 30 |
| Carbon tetrachloride | | | 50.0 | 50.5 | | ug/L | | 101 | 75 - 130 | 2 | 20 |
| Benzene | | | 50.0 | 52.8 | | ug/L | | 106 | 73 - 131 | 1 | 30 |
| 1,2-Dichloroethane | | | 50.0 | 50.2 | | ug/L | | 100 | 75 - 130 | 2 | 20 |
| Trichloroethene | | | 50.0 | 49.9 | | ug/L | | 100 | 80 - 123 | 1 | 20 |
| Methylcyclohexane | | | 50.0 | 53.7 | | ug/L | | 107 | 75 - 127 | 3 | 30 |
| 1,2-Dichloropropane | | | 50.0 | 56.7 | | ug/L | | 113 | 80 - 123 | 0 | 20 |
| Bromodichloromethane | | | 50.0 | 51.3 | | ug/L | | 103 | 77 - 129 | 0 | 20 |
| cis-1,3-Dichloropropene | | | 50.0 | 55.3 | | ug/L | | 111 | 80 - 133 | 0 | 20 |
| 4-Methyl-2-pentanone | | | 250 | 283 | | ug/L | | 113 | 75 - 135 | 3 | 30 |
| Toluene | | | 50.0 | 51.4 | | ug/L | | 103 | 80 - 122 | 0 | 20 |
| trans-1,3-Dichloropropene | | | 50.0 | 52.9 | | ug/L | | 106 | 74 - 140 | 3 | 20 |
| 1,1,2-Trichloroethane | | | 50.0 | 45.3 | | ug/L | | 91 | 79 - 125 | 13 | 20 |
| Tetrachloroethene | | | 50.0 | 45.3 | | ug/L | | 91 | 77 - 123 | 6 | 20 |
| 2-Hexanone | | | 250 | 280 | | ug/L | | 112 | 70 - 141 | 5 | 40 |
| Dibromochloromethane | | | 50.0 | 48.3 | | ug/L | | 97 | 71 - 136 | 4 | 20 |
| 1,2-Dibromoethane | | | 50.0 | 46.8 | | ug/L | | 94 | 77 - 131 | 14 | 30 |
| Chlorobenzene | | | 50.0 | 49.5 | | ug/L | | 99 | 80 - 120 | 3 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 680-429617/5**
**Matrix: Water**
**Analysis Batch: 429617**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | | | 50.0 | 51.5 | | ug/L | | 103 | 80 - 120 | 3 | 20 |
| Xylenes, Total | | | 100 | 99.7 | | ug/L | | 100 | 80 - 120 | 0 | 20 |
| Styrene | | | 50.0 | 44.0 | | ug/L | | 88 | 80 - 122 | 10 | 20 |
| Bromoform | | | 50.0 | 46.5 | | ug/L | | 93 | 69 - 135 | 4 | 20 |
| Isopropylbenzene | | | 50.0 | 49.8 | | ug/L | | 100 | 80 - 120 | 5 | 20 |
| 1,1,2,2-Tetrachloroethane | | | 50.0 | 50.5 | | ug/L | | 101 | 72 - 128 | 5 | 20 |
| 1,3-Dichlorobenzene | | | 50.0 | 50.7 | | ug/L | | 101 | 80 - 120 | 1 | 20 |
| 1,4-Dichlorobenzene | | | 50.0 | 50.7 | | ug/L | | 101 | 80 - 120 | 2 | 20 |
| 1,2-Dichlorobenzene | | | 50.0 | 47.9 | | ug/L | | 96 | 80 - 120 | 1 | 20 |
| 1,2-Dibromo-3-Chloropropane | | | 50.0 | 51.4 | | ug/L | | 103 | 59 - 141 | 3 | 30 |
| 1,2,4-Trichlorobenzene | | | 50.0 | 48.2 | | ug/L | | 96 | 77 - 131 | 3 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *106* | | *70 - 130* |
| *1,2-Dichloroethane-d4 (Surr)* | *99* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *112* | | *70 - 130* |

## GC/MS VOA

### Leach Batch: 429163

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| LB 680-429163/1-A | Method Blank | Total/NA | Water | 1311 | |

### Analysis Batch: 429212

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-123918-8 | MW-19 | Total/NA | Water | 8260B | |
| 680-123918-9 | MW-23 | Total/NA | Water | 8260B | |
| 680-123918-11 | MW-25 | Total/NA | Water | 8260B | |
| 680-123918-13 | MW-27 | Total/NA | Water | 8260B | |
| 680-123918-26 | Trip Blank | Total/NA | Water | 8260B | |
| LCS 680-429212/3 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-429212/29 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-429212/8 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 429229

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-123918-1 | IW-1R | Total/NA | Water | 8260B | |
| 680-123918-3 | LAW-PZ-8R | Total/NA | Water | 8260B | |
| 680-123918-5 | MW-16 | Total/NA | Water | 8260B | |
| 680-123918-10 | MW-24R | Total/NA | Water | 8260B | |
| 680-123918-12 | MW-26R | Total/NA | Water | 8260B | |
| 680-123918-15 | MW-29 | Total/NA | Water | 8260B | |
| 680-123918-25 | PAN-MW-10 | Total/NA | Water | 8260B | |
| LCS 680-429229/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-429229/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-429229/8 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 429438

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-123918-17 | MW-31 | Total/NA | Water | 8260B | |
| 680-123918-20 | MW-34 | Total/NA | Water | 8260B | |
| 680-123918-23 | MW-37 | Total/NA | Water | 8260B | |
| 680-123918-24 | PAN-MW-9 | Total/NA | Water | 8260B | |
| LCS 680-429438/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-429438/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-429438/9 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 429447

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-123918-2 | IW-18 | Total/NA | Water | 8260B | |
| 680-123918-4 | MW-14 | Total/NA | Water | 8260B | |
| 680-123918-7 | MW-18R | Total/NA | Water | 8260B | |
| 680-123918-16 | MW-30 | Total/NA | Water | 8260B | |
| 680-123918-18 | MW-32 | Total/NA | Water | 8260B | |
| 680-123918-21 | MW-35 | Total/NA | Water | 8260B | |
| 680-123918-22 | MW-36 | Total/NA | Water | 8260B | |
| LCS 680-429447/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-429447/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-429447/9 | Method Blank | Total/NA | Water | 8260B | |

## GC/MS VOA (Continued)

### Analysis Batch: 429452

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-123918-5 - DL | MW-16 | Total/NA | Water | 8260B | |
| 680-123918-12 - DL | MW-26R | Total/NA | Water | 8260B | |
| 680-123918-14 | MW-28 | Total/NA | Water | 8260B | |
| 680-123918-19 | MW-33 | Total/NA | Water | 8260B | |
| LB 680-429163/1-A | Method Blank | Total/NA | Water | 8260B | 429163 |
| LCS 680-429452/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-429452/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-429452/8 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 429617

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 680-123918-2 - DL | IW-18 | Total/NA | Water | 8260B | |
| 680-123918-6 | MW-17R | Total/NA | Water | 8260B | |
| LCS 680-429617/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| LCSD 680-429617/5 | Lab Control Sample Dup | Total/NA | Water | 8260B | |
| MB 680-429617/12 | Method Blank | Total/NA | Water | 8260B | |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: IW-1R
**Date Collected: 04/06/16 14:56**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-1
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 200 | 5 mL | 5 mL | 429229 | 04/15/16 15:11 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: IW-18
**Date Collected: 04/07/16 16:04**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-2
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 25 | 5 mL | 5 mL | 429447 | 04/18/16 16:39 | DAS | TAL SAV |
| | Instrument ID: CMSB | | | | | | | | | |
| Total/NA | Analysis | 8260B | DL | 100 | 5 mL | 5 mL | 429617 | 04/19/16 13:25 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: LAW-PZ-8R
**Date Collected: 04/06/16 17:20**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-3
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1000 | 5 mL | 5 mL | 429229 | 04/15/16 15:32 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-14
**Date Collected: 04/05/16 17:06**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-4
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429447 | 04/18/16 12:25 | DAS | TAL SAV |
| | Instrument ID: CMSB | | | | | | | | | |

## Client Sample ID: MW-16
**Date Collected: 04/05/16 11:03**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-5
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 2 | 5 mL | 5 mL | 429229 | 04/15/16 15:53 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |
| Total/NA | Analysis | 8260B | DL | 5 | 5 mL | 5 mL | 429452 | 04/18/16 13:04 | CAR | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-17R
**Lab Sample ID: 680-123918-6**

**Date Collected: 04/07/16 12:29**
**Matrix: Water**
**Date Received: 04/08/16 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429617 | 04/19/16 12:43 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-18R
**Lab Sample ID: 680-123918-7**

**Date Collected: 04/05/16 12:45**
**Matrix: Water**
**Date Received: 04/08/16 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429447 | 04/18/16 12:04 | DAS | TAL SAV |
| | Instrument ID: CMSB | | | | | | | | | |

## Client Sample ID: MW-19
**Lab Sample ID: 680-123918-8**

**Date Collected: 04/04/16 16:31**
**Matrix: Water**
**Date Received: 04/08/16 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429212 | 04/14/16 21:02 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-23
**Lab Sample ID: 680-123918-9**

**Date Collected: 04/04/16 15:30**
**Matrix: Water**
**Date Received: 04/08/16 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429212 | 04/14/16 21:23 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-24R
**Lab Sample ID: 680-123918-10**

**Date Collected: 04/05/16 16:02**
**Matrix: Water**
**Date Received: 04/08/16 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 5 | 5 mL | 5 mL | 429229 | 04/15/16 16:14 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-25
**Lab Sample ID: 680-123918-11**

**Date Collected: 04/04/16 17:14**
**Matrix: Water**
**Date Received: 04/08/16 08:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429212 | 04/14/16 21:44 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: MW-26R
**Date Collected: 04/06/16 13:58**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-12
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 5 | 5 mL | 5 mL | 429229 | 04/15/16 16:35 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |
| Total/NA | Analysis | 8260B | DL | 100 | 5 mL | 5 mL | 429452 | 04/18/16 13:25 | CAR | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-27
**Date Collected: 04/04/16 18:41**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-13
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429212 | 04/14/16 22:05 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-28
**Date Collected: 04/06/16 10:46**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-14
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429452 | 04/18/16 13:46 | CAR | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-29
**Date Collected: 04/06/16 18:36**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-15
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 100 | 5 mL | 5 mL | 429229 | 04/15/16 14:08 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-30
**Date Collected: 04/06/16 15:37**
**Date Received: 04/08/16 08:30**

## Lab Sample ID: 680-123918-16
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429447 | 04/18/16 11:43 | DAS | TAL SAV |
| | Instrument ID: CMSB | | | | | | | | | |

## Client Sample ID: MW-31
**Date Collected: 04/06/16 13:52**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-17**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429438 | 04/17/16 21:44 | CEJ | TAL SAV |
| | Instrument ID: CMSB | | | | | | | | | |

## Client Sample ID: MW-32
**Date Collected: 04/07/16 13:18**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-18**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429447 | 04/18/16 17:21 | DAS | TAL SAV |
| | Instrument ID: CMSB | | | | | | | | | |

## Client Sample ID: MW-33
**Date Collected: 04/05/16 18:35**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-19**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429452 | 04/18/16 14:07 | CAR | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: MW-34
**Date Collected: 04/06/16 11:11**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-20**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429438 | 04/17/16 22:06 | CEJ | TAL SAV |
| | Instrument ID: CMSB | | | | | | | | | |

## Client Sample ID: MW-35
**Date Collected: 04/07/16 09:43**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-21**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429447 | 04/18/16 17:42 | DAS | TAL SAV |
| | Instrument ID: CMSB | | | | | | | | | |

## Client Sample ID: MW-36
**Date Collected: 04/07/16 10:40**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-22**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429447 | 04/18/16 18:03 | DAS | TAL SAV |
| | Instrument ID: CMSB | | | | | | | | | |

# Lab Chronicle

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Client Sample ID: MW-37
**Date Collected: 04/06/16 09:47**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-23**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 10 | 5 mL | 5 mL | 429438 | 04/17/16 22:27 | CEJ | TAL SAV |
| | Instrument ID: CMSB | | | | | | | | | |

## Client Sample ID: PAN-MW-9
**Date Collected: 04/06/16 18:02**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-24**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 20 | 5 mL | 5 mL | 429438 | 04/17/16 22:48 | CEJ | TAL SAV |
| | Instrument ID: CMSB | | | | | | | | | |

## Client Sample ID: PAN-MW-10
**Date Collected: 04/05/16 15:01**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-25**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429229 | 04/15/16 13:47 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

## Client Sample ID: Trip Blank
**Date Collected: 04/04/16 00:00**
**Date Received: 04/08/16 08:30**

**Lab Sample ID: 680-123918-26**
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 5 mL | 5 mL | 429212 | 04/14/16 20:41 | CEJ | TAL SAV |
| | Instrument ID: CMSO2 | | | | | | | | | |

**Laboratory References:**
TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Serial Number 107013

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING


**TestAmerica Savannah**
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location
Phone:
Fax:


| PROJECT REFERENCE | PROJECT NO. | PROJECT LOCATION (STATE) |
|---|---|---|
| V.PAK | 39 0020 | GA |

| TAL (LAB) PROJECT MANAGER | P.O. NUMBER | CONTRACT NO. |
|---|---|---|
| Sheila Hoffman | 901394 | |

| CLIENT (SITE) PM | CLIENT PHONE | CLIENT FAX |
|---|---|---|
| Alan Sanders | 770-772-7100 | |

| CLIENT NAME | CLIENT E-MAIL |
|---|---|
| EIC | asanders@eicusa.com |

CLIENT ADDRESS: 161 Kimball Bridge Rd. Alpharetta GA 30009

COMPANY CONTRACTING THIS WORK (if applicable)

PAGE 1 OF 3

STANDARD REPORT DELIVERY

DATE DUE

EXPEDITED REPORT DELIVERY (SURCHARGE)

DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE | MATRIX: AQUEOUS (WATER) | MATRIX: SOLID OR SEMISOLID | MATRIX: AIR | MATRIX: NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | REQUIRED ANALYSIS: 8260B | REQUIRED ANALYSIS: HCl PRESERVATIVE | NUMBER OF CONTAINERS SUBMITTED | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/6/16 | 14:56 | IW-1R | G | √ | | | | 3 | | 3 | |
| 4/7/16 | 16:04 | IW-1B | G | √ | | | | 3 | | 3 | |
| 4/6/16 | 17:20 | LAW-PZ-8R | G | √ | | | | 3 | | 3 | |
| 4/5/16 | 17:06 | MW-14 | G | √ | | | | 3 | | 3 | |
| 4/5/16 | 11:03 | MW-15 | G | √ | | | | 3 | | 3 | |
| 4/7/16 | 12:29 | MW-17R | G | √ | | | | 3 | | 3 | |
| 4/5/16 | 12:45 | MW-18R | G | √ | | | | 3 | | 3 | |
| 4/4/16 | 15:31 | MW-19 | G | √ | | | | 3 | | 3 | |
| 4/4/16 | 15:30 | MW-23 | G | √ | | | | 3 | | 3 | |
| 4/5/16 | 16:02 | MW-24R | G | √ | | | | 3 | | 3 | |
| 4/4/16 | 17:14 | MW-25 | G | √ | | | | 3 | | 3 | |
| 4/6/16 | 13:58 | MW-26R | G | √ | | | | 3 | | 3 | |

680-123918 Chain of Custody

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| | | | | 4/8/16 | 8:30 | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| | | | | 4-8-16 | 8:30 | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| | 4/8/16 | 830 | YES ○ NO ○ | 680-123918 | | 31(C)3.5° |

TAL8240-680 (1008)

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4/20/2016

Serial Number 107014

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING


**TestAmerica Savannah**
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location
Phone:
Fax:


| PROJECT REFERENCE | PROJECT NO. | PROJECT LOCATION (STATE) |
|---|---|---|
| VoPak | 37002.0 | GA |
| TAL (LAB) PROJECT MANAGER: Sheila Hoffman | P.O. NUMBER: 901394 | CONTRACT NO. |
| CLIENT (SITE) PM: Alan Sanders | CLIENT PHONE: 770-772-7100 | CLIENT FAX |
| CLIENT NAME: EIC | CLIENT E-MAIL: asanders@eicusa.com | |
| CLIENT ADDRESS: 161 Kimball Bridge Rd Alpharetta GA 30009 | | |
| COMPANY CONTRACTING THIS WORK (if applicable) | | |

PAGE 2 OF 3

STANDARD REPORT DELIVERY (30D)
DATE DUE
EXPEDITED REPORT DELIVERY (SURCHARGE)
DATE DUE
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE | MATRIX: AQUEOUS (WATER) | MATRIX: SOLID OR SEMISOLID | MATRIX: AIR | MATRIX: NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | REQUIRED ANALYSIS: 8260B | PRESERVATIVE: HCl | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/4/16 | 18:41 | MW-27 | G | √ | | | | 3 | 3 | |
| 4/6/16 | 10:46 | MW-29 | G | √ | | | | 3 | 3 | |
| 4/5/16 | 13:36 | MW-24 | G | √ | | | | 3 | 3 | |
| 4/5/16 | 15:37 | MW-30 | G | √ | | | | 3 | 3 | |
| 4/4/16 | 13:52 | MW-31 | G | √ | | | | 3 | 3 | |
| 4/7/16 | 13:19 | MW-32 | G | √ | | | | 3 | 3 | |
| 4/5/16 | 18:35 | MW-33 | G | √ | | | | 3 | 3 | |
| 4/6/16 | 11:19 | MW-34 | G | √ | | | | 3 | 3 | |
| 4/7/16 | 9:43 | MW-35 | G | √ | | | | 3 | 3 | |
| 4/7/16 | 10:40 | MW-36 | G | √ | | | | 3 | 3 | |
| 4/6/16 | 9:47 | MW-37 | G | √ | | | | 3 | 3 | |
| 4/5/16 | 18:02 | PAF-MW-9 | G | √ | | | | 3 | 3 | |

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| | 4/8/16 | 8:30 | | | | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| | 4-8-16 | 8:30 | | | | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| | 4/8/16 | 830 | YES ○ NO ○ | 680-123918 | | 3.1(CF) 3.5° |

TAL8240-680 (1008)

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Serial Number 107015

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


**TestAmerica Savannah**
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:


| PROJECT REFERENCE | PROJECT NO. | PROJECT LOCATION (STATE) |
|---|---|---|
| VOPAK | 390020 | GA |

| TAL (LAB) PROJECT MANAGER | P.O. NUMBER | CONTRACT NO. |
|---|---|---|
| Sheila Hoffman | 901394 | |

| CLIENT (SITE) PM | CLIENT PHONE | CLIENT FAX |
|---|---|---|
| Alan Sanders | 770-772-7100 | |

| CLIENT NAME | CLIENT E-MAIL |
|---|---|
| EIC | asanders@eicusa.com |

CLIENT ADDRESS: 161 Kimball Bridge Rd. Alpharetta GA 30009

COMPANY CONTRACTING THIS WORK (if applicable)

PAGE 3 OF 3

STANDARD REPORT DELIVERY

DATE DUE

EXPEDITED REPORT DELIVERY (SURCHARGE)

DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

| SAMPLE DATE | SAMPLE TIME | SAMPLE IDENTIFICATION | MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE | AQUEOUS (WATER) | SOLID OR SEMISOLID | AIR | NONAQUEOUS LIQUID (OIL, SOLVENT, ...) | REQUIRED ANALYSIS: 8260B | PRESERVATIVE: HCl | NUMBER OF CONTAINERS SUBMITTED | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/5/16 | 15:01 | PAR-MW-10 | G | ✓ | | | | | | 3 | |
| — | — | Trip Blank | G | ✓ | | | | | | 2 | |

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| | 4/8/16 | 8:30 | | | | | | |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| | 4-8-16 | 8:30 | | | | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | CUSTODY SEAL NO. | SAVANNAH LOG NO. | LABORATORY REMARKS |
|---|---|---|---|---|---|---|
| | 4/8/16 | 830 | YES ○ NO ○ | 680-123918 | | 3.1 (C) 3.5°C |

TAL8240-680 (1008)

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4/20/2016

# Login Sample Receipt Checklist

Client: Environmental International Corporation

Job Number: 680-123918-1

**Login Number: 123918**
**List Number: 1**
**Creator: Banda, Christy S**

**List Source: TestAmerica Savannah**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | N/A | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

# Certification Summary

Client: Environmental International Corporation
Project/Site: Vopak, P.N. 390020

TestAmerica Job ID: 680-123918-1

## Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| Georgia | State Program | 4 | 803 | 06-30-16 |