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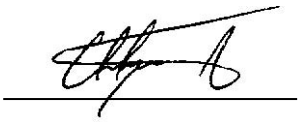

Christopher Jones
Project Manager

TETRA TECH

SUPPORTING THE GEORGIA WORLD CONGRESS CENTER

1955 EVERGREEN BLVD ♦ SUITE 300 ♦ DULUTH, GA 30096 ♦ TEL: (678) 775-3080 ♦ FAX: (678) 775-3138

February 13, 2017

Ms. Antonia Beavers
GEORGIA DEPARTMENT OF NATURAL RESOURCES
Department of Environmental Protection
Land Protection Branch
Response and Remediation Program
2 Martin Luther King, Jr. Drive, S.E., Suite 1054
Atlanta, Georgia 30334-9000

Subject: **Annual Groundwater Sampling Report #11**
Northside Drive Landfill Site, Atlanta, Georgia

Dear Ms. Beavers:

Tetra Tech, Inc. (Tetra Tech) is pleased to submit the enclosed Annual Groundwater Sampling Report #11 for the subject site on behalf of our client, the Georgia World Congress Center (GWCC). Tetra Tech prepared this report in accordance with the requirements specified in the Monitoring and Maintenance (M&M) Plan (Georgia Department of Natural Resources, December 2003, revised July 2005).

Tetra Tech field personnel conducted annual groundwater sampling on December 5 and 6, 2016. Metals regulated by the revised M&M Plan were not detected above laboratory reporting limits. Concentrations of four site regulated polynuclear aromatic hydrocarbons (PAH) were detected above the analytical method's reporting limit. Phenanthrene and naphthalene were detected in monitoring well MM-03. Pyrene and fluoranthene were detected in monitoring well MWC-1A. Laboratory analytical results did not reveal any concentrations above the Type 1 Risk Reduction Standards (RRS) for any wells; however, concentrations were above background concentrations observed in well MM-04. During field monitoring for organic vapors using a flame ionization detector (FID), detections were observed within the headspace of the following on-site wells: MWC-3C (1.8 ppm), MM-03 (7.96 ppm), and MWC-1C (2.52 ppm). Tetra Tech did not observe any other detections at any of the other sampling locations.

On February 3, 2016, Tetra Tech contacted Ms. Antonia Beavers to notify Georgia Environmental Protection Division (GA EPD) of the low level detections during the December 2015 sampling event and to discuss recommendations. Tetra Tech recommended sampling for semi volatile organic compounds (SVOC) by SW-846 Method 8270D in MM-04 (the background well), MM-03, and MWC-1A to determine if additional SVOCs are present and to establish a baseline with the revised analytical method. In correspondence dated March 29, 2016, GA EPD approved the additional analysis at the proposed locations with the addition of MWC-3C.

As requested by representatives of the GWCC, Tetra Tech has enclosed two hard copies and one electronic copy of the 11th Annual Groundwater Sampling Report. If you have any questions or comments regarding this submittal, please contact me at (678) 775-3081 or Wayne Rosser (GWCC) at (404) 223-4820.

Sincerely,

Christopher Jones
Project Manager

Enclosure

cc: Wayne Rosser, GWCC
Jason Wilson, Tetra Tech
Jason Metzger, GA EPD (letter only)
Joan Sasine, Bryan Cave, LLP. (electronic copy only)

ANNUAL GROUNDWATER SAMPLING REPORT #11
NORTHSIDE DRIVE LANDFILL SITE

GEORGIA WORLD CONGRESS CENTER

ATLANTA, GEORGIA

PREPARED FOR:

GEORGIA DEPARTMENT OF NATURAL RESOURCES

DEPARTMENT OF ENVIRONMENTAL PROTECTION, LAND PROTECTION BRANCH,

RESPONSE AND REMEDIATION PROGRAM

2 MARTIN LUTHER KING, JR. DRIVE, S.E., SUITE 1054 EAST

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PREPARED BY:

TETRA TECH

1955 EVERGREEN BLVD

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DULUTH, GEORGIA 30096

FEBRUARY 2017

CERTIFICATIONS

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 that 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 and accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Andrea J. Kandray
for Christopher Jones
Project Manager

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.

Jason Wilson
Georgia P.E. No. 0270298

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ACRONYMS AND ABBREVIATIONS

bgs	Below ground surface
COC	Chain of custody
DNAPL	Dense Non-aqueous Phase Liquid
EPA	U.S. Environmental Protection Agency
ft	Foot/feet
GA DNR	Georgia Department of Natural Resources
GA EPD	Georgia Environmental Protection Division
gal/min	Gallons per minute
GPS	Global positioning system
GWCC	Georgia World Congress Center
HSI	Hazardous Site Inventory
J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample
LOQ	Limit of Quantitation
L/min	Liters per minute
m	Meter
M&M	Monitoring and maintenance
MSL	Mean sea level
NTU	Nephelometric Turbidity Units
PAHs	Polynuclear aromatic hydrocarbons
PQL	Practical quantitation limits
RRS	Risk Reduction Standards
SESD	Science and Ecosystem Support Division
TAL Metals	Target Analyte List metals
Tetra Tech	Tetra Tech, Inc.
µg/L	Micrograms per liter
VRP	Voluntary Remediation Program

1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) has prepared the 11th Annual Groundwater Sampling Report for the Georgia World Congress Center (GWCC) for activities conducted at the Northside Drive Landfill Site (Site), previously known as the Jones Avenue Site, located in Atlanta, Georgia. Tetra Tech is submitting this report to the Georgia Department of Natural Resources (GA DNR), Environmental Protection Division (GA EPD), Land Protection Branch, Response and Remediation Program in partial fulfillment of requirements presented in the revised Monitoring and Maintenance (M&M) Plan for Type 5 Risk Reduction Standards (RRS) for the Site (GA EPD 2005). Tetra Tech conducted quarterly groundwater sampling at the Site for two years after installation of engineering controls. Following these quarterly sampling events, eleven annual groundwater sampling events have been completed, including the most recent annual sampling event conducted on December 5 and 6, 2016.

This report evaluates the performance of the remedial controls implemented in July 2003 as part of the criteria for Type 5 RRS of the Georgia Hazardous Site Response Regulations, Chapter 391-3-19-.07(10) (GA DNR 2003a). The GA EPD has determined that Type 5 standards apply to the Site, and that Type 1 RRS are to be met outside of the boundary of engineering controls. The performance criteria used to evaluate the remedial controls are provided in the Type 1 RRS of the Georgia Hazardous Site Response Regulations, Chapter 391-3-19-.07(6) (GA EPD 2003b). This evaluation was supported by a groundwater sampling event conducted on December 5 and 6, 2016 to monitor the nature and extent of potential groundwater contamination outside the boundary of engineering controls at the Site.

1.1 SITE DESCRIPTION

The Site was formerly listed on the State of Georgia's Hazardous Site Inventory (HSI) pursuant to the Georgia Hazardous Site Response Act, and later was removed from the HSI under the Georgia Voluntary Remediation Program (VRP). On July 25, 2016, GA EPD terminated the site from enrollment in the VRP in response to a formal request by GWCC. Two tax parcels on the south side of John Street owned by the state of Georgia were combined into one tax parcel (tax parcel identification number 14-0082-006-12-1). Six monitoring wells (MM-02, MWC-3C, MWC-3B, MWC-1A, MWC-1B, and MWC-1C) are located on property owned by The Housing Authority of the City of Atlanta, Georgia on the north side of John Street at tax parcel identification number 14-0082-0006-008-9.

The landfill portions of the Site (also referred to as "landfill") were remediated using engineering and institutional controls. The engineering controls involved the installation of a soil-bentonite slurry wall and an

engineered cap as illustrated in the approved "Revised As-Built Drawings" dated October 2003 (GA EPD 2003c).

1.2 REPORT ORGANIZATION

Section 1.0 of this report provides a brief site description, the report's organization, and the groundwater sampling program objectives. Section 2.0 describes the groundwater sampling investigation activities performed as part of the 11th Annual Groundwater Sampling Event, which includes discussion of groundwater standards, sampling locations, and sampling procedures. Section 3.0 provides the analytical results of the current Sampling Event. Section 4.0 provides an evaluation of the data from a statistical viewpoint. Section 5.0 presents a review of the non-residential use of the property. Section 6.0 provides conclusions and recommendations based on the 11th Annual Groundwater Sampling Event. Section 7.0 presents deviations from the revised M&M Plan. Section 8.0 presents a list of references used in this report.

This report also includes seven (7) enclosures and two (2) attachments. Enclosure 1 contains figures illustrating the site location, a potentiometric map, and groundwater levels outside of the slurry wall. Enclosure 2 provides tables summarizing the analytes regulated for groundwater at this site, historical summaries of field parameter measurements, analytical results for metals, and analytical results for polynuclear aromatic hydrocarbons (PAHs). Enclosure 3 contains a copy of the Tetra Tech logbook notes. Enclosure 4 presents completed groundwater sampling field data sheets created by Tetra Tech for each groundwater monitoring well during the December 2016 event. Enclosure 5 provides a photographic log from the most recent landfill inspection; this log was also included in the Quarters-50/51 Landfill Maintenance and Inspection Report. Enclosure 6 presents the chain of custody (COC) provided to the laboratory with the samples. Enclosure 7 provides data validation for the analytical results received from the laboratory. Attachment A provides analytical results from the laboratory. Attachment B provides a certification letter from the laboratory stating that the laboratory is approved according to Chapter 391-3-26-.05.

1.3 OBJECTIVES

Tetra Tech conducted two years of quarterly sampling between March 2004 and December 2005 in accordance with the revised M&M Plan (GA EPD 2005). Subsequently, the frequency of groundwater sampling was reduced to once annually. The purpose of this ongoing annual sampling program is to evaluate the performance of the remedial controls, and to establish existing conditions and background data that may be used for statistical analysis, if warranted.

The specific objectives of the annual groundwater sampling efforts are to identify and/or evaluate the following potential conditions:

- A release to groundwater of regulated substances from the landfill at concentrations above background and/or the Type 1 RRS of the Georgia Hazardous Site Response Regulations of Chapter 391-3-19-.07
- Migration of existing concentrations of regulated substances to locations outside of the landfill

The annual sampling event also involves the measurement of groundwater levels both inside and outside the slurry wall.

2.0 GROUNDWATER SAMPLING INVESTIGATION ACTIVITIES

This section describes the applicable regulatory standards, procedures, and methods used by Tetra Tech to collect, analyze and evaluate the groundwater samples collected during the sampling event conducted on December 5 and 6, 2016.

2.1 GROUNDWATER STANDARDS

Based on historical data collected during previous sampling events conducted by GA EPD, the regulated analytes for the Site include polynuclear aromatic hydrocarbons (PAHs) and metals. The Georgia Type 1 RRS for regulated substances, presented in the Georgia Hazardous Site Response Regulations, Chapter 391-3-19-.07 (GA EPD 2003a) were used as the groundwater standards for this Sampling Event. Table 1 of Enclosure 2 lists the regulated analytes for the Site, the frequency at which they continue to be monitored during the annual sampling program, the Type 1 RRS, and the laboratory analytical methods used to measure the concentrations of each analyte in the samples.

2.2 GROUNDWATER SAMPLING LOCATIONS

Tetra Tech collected water level measurements from the following nine groundwater monitoring wells and the landfill dewatering well, which are located in and around the landfill, as shown in Figure 1 in Enclosure 1:

- MM-04 – the up gradient, background monitoring well for site groundwater, located on the southeastern corner of the site, near the intersection of Bush Street and Gray Street.
- MM-01 – located near the western boundary of the site, along Northside Drive

- MM-02 – located on the northwestern corner of the western end of John Street, near the intersection of Northside Drive and John Street
- MWC-3B, MWC-3C – located just outside the northwestern corner of the site, by the intersection of John Street and Northside Drive
- MM-03 – located on the northern boundary of the site along John Street, midway between Northside Drive and Gray Street
- MWC-1A, MWC-1B, MWC-1C – located on the northeastern corner of the site, at the intersection of John Street and Gray Street
- Dewatering well – located within the limits of the engineering controls of the landfill slurry wall near the northwest corner of the landfill

Tetra Tech also collected groundwater samples from all of the wells except the dewatering well. It should be noted that previous sampling events conducted in December 2006 to December 2010, classified monitoring well MWC-1A as dry due to insufficient water (≤ 6 inches). Redeveloping the well in November 2011 may have removed the blockage, which allowed the well to be sampled in subsequent monitoring events. In addition, the demolition of the Herndon Homes Apartment complex located just north of these wells may have altered the groundwater recharge and flow characteristics on the northern perimeter of the site.

In accordance with the M&M plan, the site monitoring wells were gauged starting with the background well MM-04, and continuing (in the order shown) with site monitoring wells MM-01, MM-02, MWC-3C, MWC-3B, MM-03, MWC-1A, MWC-1C and MWC-1B (GA EPD 2005).

2.2.1 Geographic Locations of Monitoring Wells and Site Landmarks

The geographic locations of the monitoring wells were determined in November 2003 using a global positioning system (GPS) consisting of a Trimble™ TSC1™ data collector and GPS Pathfinder® Pro XRS receiver. Tetra Tech used the coordinates of the existing wells to show the well locations on Figure 1. The locations of property monuments were also determined using this equipment. The GPS coordinates for the monuments on the northern perimeter of the site were updated in December 2011 during the quarterly inspection conducted on December 7, 2011 to alleviate problems with locating the monuments using only the figures during previous quarterly inspections. The horizontal accuracy of the locations of the groundwater monitoring wells was determined to be plus or minus (±) one meter (m). A Georgia-registered land surveyor using traditional field survey techniques determined the elevation of monitoring wells at the site within an accuracy of ± 0.01 foot.

Groundwater elevations inside and outside of the slurry wall were also compared during this 11th Annual Event (see Figures 3 and 4 in Enclosure 1).

2.3 GROUNDWATER SAMPLING AND ANALYSIS PROCEDURES

During sampling activities conducted on December 5 and 6, 2016, Tetra Tech collected groundwater samples from nine monitoring wells. Tetra Tech collected groundwater samples using the U.S. Environmental Protection Agency (EPA) Region 4 Science and Ecosystem Support Division (SESD) "Traditional Multiple Volume Purge" method, in accordance with the EPA Region 4 SESD Field Branches Quality System and Technical Procedure (FBQSTP) for Groundwater Sampling, dated March 6, 2013 (EPA 2013). Tetra Tech collected groundwater samples in partial fulfillment of the revised M&M Plan; see Section 7.0 for deviations from the revised M&M Plan.

2.3.1 Well Redevelopment in November 2011

In an attempt to reduce the increased turbidity observed in the groundwater samples during the 5th Annual Sampling Event, Tetra Tech performed redevelopment on all of the wells on-site, with the exception of the dewatering well, in November 2011. Tetra Tech purged wells using a Waterra Hydrolift II inertial pump (Hydrolift II), which utilizes a motor-driven actuator to oscillate the tubing and foot valve assembly up and down to force trapped water and fine sediments upwards through the tubing. The surging action agitates the well column, mobilizing loose and fine sediments while simultaneously drawing in collected sediment from the bottom of the well into the tubing (Waterra 2011).

Wells subjected to redevelopment were pumped with the Hydrolift II until the purged water became clear, then the wells were surged and purged a second time until the purged water became clear again. Purged water was contained in 55-gallon drums on-site to await analytical results and was later appropriately disposed (see Section 2.3.2.6).

2.3.2 Measuring Depth to Groundwater

During the 11th Annual Sampling Event, the depth to groundwater was measured in wells MM-04, MM-01, MM-02, MWC-3B, MWC-3C, MM-03, MWC-1A, MWC-1B, MWC-1C, and the dewatering well using a water level indicator capable of providing water level measurements to the nearest 0.01 foot. The top of each well casing was used as the measurement reference point. Tetra Tech decontaminated the probe prior to initial use and between wells (see Section 2.3.5, Sampling Decontamination Procedures for more information). The

depths to groundwater were recorded in the logbook and on the Groundwater Sampling Data Sheets (see Enclosure's 3 and 4).

2.3.3 Air Monitoring Near Monitoring Wells

After removing the monitoring well's protective manhole cover and casing cap, but prior to measuring the groundwater level, the breathing zone was checked for organic vapors using a photoionization detector (PID), calibrated in the field prior to use. No elevated readings were observed in the breathing zone. Wells MM-04, MWC-3C, MM-03, and MWC-1C had headspace readings of 0.61 ppm, 1.80 ppm, 7.96 ppm, and 2.52 ppm, respectively. Air monitoring screening results are presented in the logbook notes in Enclosure 3 and on the Groundwater Sampling Data Sheets in Enclosure 4.

2.3.4 Measuring Water Quality Parameters

Water quality parameters were measured using a YSI Professional Plus multi-parameter water quality meter with a flow-through cell and a Lamotte 2020we turbidity meter. The water quality and turbidity meters were calibrated in the field prior to initiating sampling activities each day. The specified water quality parameters (pH, temperature, specific conductivity, and turbidity) were measured in the field during the purging period of each well. The data is presented in Table 2 of Enclosure 2, as well as in the Groundwater Sampling Data Sheets in Enclosure 4. Groundwater generated during well purging was contained in 55-gallon drums placed on-site to await analytical results.

2.3.5 Collection of Groundwater Samples

Collection of samples for laboratory analysis utilized a peristaltic pump at all sampling locations. Purging activities were complete after a minimum of three (3) well casing volumes were removed and water quality parameters stabilized, in accordance with Section 3.2.2 of the revised M&M Plan (GA EPD 2005) at the following locations: MM-04, MM-01, MM-02, MWC-3C, MWC-3B, MM-03, and MWC-1A. Low-flow sampling techniques were implemented at wells MWC-1B and MWC-1C; therefore, Tetra Tech collected samples after the well was purged for a minimum of 15 minutes and water quality parameters stabilized. At all sampling locations, tubing used in sample collection was certified-clean Teflon™-lined polyethylene tubing. Tetra Tech collected samples from all monitoring wells (excluding the dewatering well) using the sampling procedures outlined in the beginning of Section 2.3 in this report.

2.3.5.1 Placement of Sample Tubing

During groundwater sampling activities, Tetra Tech recorded the depth to the pump intake for each sample on the Groundwater Sampling Data Sheets (see Enclosure 4). Tetra Tech placed sample tubing in the water column in accordance with the EPA Region 4 SESD FBQSTP for Groundwater Sampling, which recommends the pump intake be placed just below the water column when purging via the traditional multiple volume method (EPA 2013). At MWC-1B and MWC-1C, where low-flow sampling techniques were implemented, tubing was placed at the approximate mid-section of the screened interval (EPA 2013).

2.3.5.2 Purge Rates

For all site wells, purge rates did not exceed aquifer recharge rates and flow rates ranged from 0.329 to 0.644 liters per minute (L/min). It should be noted that purge rates for all wells were slowed to rates below 0.5 L/min during sample collection. In general, purge rates were based on drawdown and aquifer recharge rates measured during purging for each sampling location.

2.3.5.3 Sampling Order

Sample containers were filled in order of decreasing volatility of the intended analytical parameters and were preserved immediately upon collection. Field groundwater measurements, the method of purging and sampling, sampling personnel, the date and time of sample collection, the analytical parameters requested, and other pertinent information were recorded in the sampling logbook, on the groundwater sampling data sheets, and on the COC forms (see Enclosures 3, 4, and 6).

2.3.5.4 Duplicate Sample

Tetra Tech collected one field duplicate sample at monitoring well MM-03. The original MM-03 sample was collected after water quality parameters stabilized and three well volumes had been removed. Upon completion, all tubing associated with the original sample collection was removed and replaced prior to collecting the field duplicate. A duplicate set of sample containers was collected in the same order of decreasing volatility of the intended analytical parameters and labeled MM-03-DUP.

2.3.5.5 Post-Sampling Activities

After collection, Tetra Tech labeled, preserved, and placed sample containers on ice in coolers to maintain their temperature at 4 degrees Celsius. Appropriate EPA-approved COC procedures were followed. Tetra

Tech packaged and shipped samples as specified in the M&M Plan (GA EPD 2005). The COC form completed for the collected samples is presented in Enclosure 6.

Tetra Tech placed groundwater purged from the monitoring wells during the 11th Annual Groundwater Sampling Event in three 55-gallon drums, which were stored near the maintenance building located on the southeastern side of the parking lot. After the analytical results from the groundwater samples collected from the monitoring wells established that regulated analyte concentrations in the groundwater were below RRS values and published Georgia Instream Water Quality Standards, the purged water was discharged to the on-site storm water system in accordance with the revised M&M Plan requirements (GA EPD 2005).

2.3.6 Groundwater Sample Analytical Methods

Gulf Coast Analytical Laboratories (GCAL), located in Baton Rouge, Louisiana, analyzed the groundwater samples for PAHs, Target Analyte List (TAL) metals, and mercury using three methods. In addition, GCAL analyzed a subset of samples for semi-volatile organic compounds (SVOC) to determine if additional SVOCs are present and to establish a baseline with the revised analytical method. The PAHs were analyzed by EPA SW-846 Method 8270D with SIM analysis (by gas chromatography/mass spectrometry with selective ion monitoring). The metals (with the exception of mercury) were analyzed by EPA SW-846 Method 6020A (inductively coupled plasma/mass spectrometry). Mercury was analyzed by EPA SW-846 Method 7470A (cold vapor atomic absorption). The SVOCs were analyzed by EPA SW-846 Method 8270C. All analytical methods were obtained from the same source document and are equally valid for use.

Analytical methods used prior to the 9th Annual Groundwater Sampling Event (conducted in January 2015), adhered to the methods as defined in the M&M Plan (EPA SW-846 Method 8310 for PAHs, EPA SW-846 Method 6010C for metals and EPA SW-846 Method 7470A for mercury). During laboratory procurement activities for the 9th Annual Groundwater Sampling Event, Tetra Tech learned that analytical laboratories were phasing out the 8310 PAH method and Method 6010C for metals. These methods were replaced with Method 8270D-SIM for PAHs and Method 6020A for metals. Laboratories contend these methods are better choices to eliminate interferences and therefore no longer support Method 8310 for PAHs and Method 6010C for metals. In correspondence dated December 11, 2014, GA EPD accepted the change in analytical methods for PAHs and metals on the condition that laboratory reporting limits remain unchanged from previous reports.

2.3.7 Sampling Decontamination Procedures

The Tetra Tech field team used pre-cleaned and dedicated sampling equipment for the 11th Annual Groundwater Sampling Event. In instances where equipment was required to come into contact with groundwater from multiple wells, decontamination procedures were conducted in accordance with the EPA Region 4 SESD FBQSTP for Field Equipment Cleaning and Decontamination, dated December 18, 2015 (EPA 2015) prior to introducing the equipment into the water column.

2.3.7.1 Well Sounders and Tapes

Before starting, and between use at each well, equipment went through the following decontamination procedure:

1. Tetra Tech rinsed well sounders and tapes with phosphate-free, laboratory-grade detergent (Luminox®) and analyte-free water.
2. The sounders and tapes were then rinsed with analyte-free deionized water (ultra-pure lab-grade water was used during the 11th Annual Groundwater Sampling Event).

2.3.7.2 Automatic Sampler Tubing

Tetra Tech used new tubing for each well; therefore, no decontamination of tubing was required.

3.0 GROUNDWATER SAMPLING INVESTIGATION RESULTS

This section presents the field and laboratory analytical results of the groundwater samples collected during the 11th Annual Groundwater Sampling Event. The fixed laboratory analytical data package prepared by GCAL located in Baton Rouge, Louisiana is presented in Attachment A.

3.1 Detections of Site Regulated Substances Above Practical Quantitation Limits

Analytical results for MM-03 and MM-03-DUP indicated that concentrations of naphthalene and phenanthrene were detected at levels above EPA SW-846 Method 8270 PQLs, but below Type 1 RRS values. The analytes fluoranthene and pyrene were also detected in monitoring well MWC-1A at levels above EPA SW-846 Method 8270 PQLs, but below Type 1 RRS values. Tables 3 and 4 in Enclosure 2 provide a summary of all analytical results from the 11th Annual Groundwater Sampling Event. The concentrations of site regulated substances detected above PQLs during the 11th Annual Event are summarized in the table below:

Analyte	Concentration	Well	Type 1 RRS
Fluoranthene	4.02 µg/L	MWC-1A	1,000 µg/L
Phenanthrene	0.309 µg/L 0.304 µg/L	MM-03 MM-03-DUP	6.4 µg/L
Pyrene	2.61 µg/L	MWC-1A	1,000 µg/L
Naphthalene	2.69 µg/L 2.56 µg/L	MM-03 MM-03-DUP	20 µg/L

Notes:
µg/L micrograms per liter
DUP duplicate
RRS Georgia Environmental Protection Division Risk Reduction Standards

3.2 Analytical Methods

The PAHs were analyzed by EPA SW-846 Method 8270D-SIM (by gas chromatography/mass spectrometry with selective ion monitoring). The metals (with the exception of mercury) were analyzed by EPA SW-846 Method 6020A (inductively coupled plasma/mass spectrometry). Mercury was analyzed by EPA SW-846 Method 7470A (cold vapor atomic absorption). The SVOCs were analyzed by EPA SW-846 Method 8270C. All analytical methods were obtained from the same source document and are equally valid for use. Section 7.0 discusses the results of Tetra Tech's data evaluation procedures. Enclosure 7 presents the data validation report prepared following the 11th Annual Groundwater Sampling Event.

3.3 Summary

A summary of the analytical results for the samples collected during the sampling event are presented in Tables 3 and 4 (Metals and PAHs, respectively) in Enclosure 2 of this report. According to the groundwater potentiometric surface map prepared by Tetra Tech using groundwater levels measured during the December 2016 sampling event, the groundwater flow continues to move in a northwesterly direction (see Figure 2 in Enclosure 1) outside of the slurry wall. Additionally, groundwater levels outside of the slurry wall are depicted in cross section Figures 3 and 4 of Enclosure 1. The dewatering well water level, depicted in Table 2 of Enclosure 2, has remained stable since monitoring activities began 10 years ago, suggesting that the landfill cap and slurry wall are intact within the vicinity of the dewatering well.

4.0 DATA EVALUATION

This section presents an evaluation of the data collected during the 11th Annual Groundwater Sampling Event in an effort to determine if the analytical results signify a release from the landfill to the groundwater surrounding the slurry wall or if groundwater is infiltrating either the slurry wall or engineered cap. The revised M&M Plan stipulates that data evaluation must be performed to determine the likelihood of a release occurring from the landfill to the surrounding groundwater for site-regulated analytes detected in monitoring wells, but not the background monitoring well. The GA EPD has determined that Type 5 standards apply to the Site, and that Type 1 RRS are to be met outside of the boundary of engineering controls. The performance criteria used to evaluate the remedial controls are provided in the Type 1 RRS of the Georgia Hazardous Site Response Regulations, Chapter 391-3-19-.07(6) (GA EPD 2003b). Compliance with Chapter 391-3-19-.07(6) stipulates that concentrations of regulated substances shall not exceed the background or detection limit concentration (GA EPD 2003b).

4.1 Analytical Data Validation and Tabulation

See Enclosure 7 for evaluation of data quality validation and tabulation of data received from the laboratory.

4.2 Outlier Evaluation

Outliers are described as the extreme (high or low) values that are widely divergent from the main body of data, and may arise from mistakes such as transcription, data-coding errors, instrument breakdown, calibration problems, and power failures (GA EPD 2005). In general, outliers are obvious mistakes that must be corrected, when possible.

Tetra Tech does not believe that the concentrations of regulated analytes detected above reporting limits for samples collected during the 11th Annual Groundwater Sampling Event are outliers. Evidence for this statement is supported by similar concentrations of similar constituents in the five previous sampling events (6th, 7th, 8th, 9th, and 10th Annual Sampling Events). Analytical results detected contaminants in wells MM-03 and MWC-1A. Also, contaminants found in the shallow aquifer, such as flouranthene and pyrene in MWC-1A, were not detected in the nearby deeper well MWC-1B.

In general, PAH constituents are dense non-aqueous phase liquid (DNAPL) meaning they tend to sink when in water. Detections of these constituents in the upper aquifer in the wells within close proximity of the slurry wall (north and northeast portion of the site) and the background well, combined with the observed

northwesterly groundwater flow direction, suggest these contaminants may have originated outside the slurry wall.

4.3 Statistical Tests

Statistical tests cannot be performed on the given data set because no regulated analytes detected in on-site monitoring wells were detected in background monitoring well MM-04. In accordance with the revised M&M Plan, professional judgment was used to assess the data set without the use of statistical calculations because these calculations contain little value when detections below reporting limits are included.

4.4 Professional Judgment

Tetra Tech believes the detection of regulated analytes are not outliers or statistical anomalies. Tetra Tech conducted quarterly groundwater level gauging events in September 2013, December 2013, March 2014, and June 2014 in an effort to better establish groundwater trends. A review of potentiometric contour maps generated from data collected during these events indicates groundwater consistently flowed in a northwesterly direction outside of the slurry wall. Furthermore, the average fluctuation in levels for all site wells from September 2013 to June 2014 was observed to be 0.70 feet, with the greatest fluctuation occurring in MM-02 (a difference of 2.19 feet). Additional information regarding the 2013-2014 quarterly gauging and sampling event is provided in the Quarterly Groundwater Gauging and Limited Sampling Report dated August 8, 2014 (Tetra Tech, 2014).

Tetra Tech has observed an unknown source of PAH detections during the five previous sampling events (6th, 7th, 8th, 9th, and 10th Annual Events). Detected concentrations have remained below Type 1 RRS values and at or near the limit of quantitation. Quarterly groundwater trends established in 2013 indicate that site contaminants were detected most frequently in winter and spring, when groundwater levels were at or near annual highs. The groundwater has consistently flowed to the northwest, which indicates that the contaminants detected in well MWC-1A likely originated from a source outside the landfill.

Tetra Tech also reviewed the quarterly dewatering well water levels within the landfill slurry wall and cap partition. The groundwater trend indicates that the groundwater level within the slurry wall in the vicinity of the dewatering well is below six feet from the top of the slurry wall at its lowest point (the northwest corner, near the dewatering well) and does not indicate any problems with the physical integrity of the slurry wall. Since the historical dewatering well levels inside the slurry wall have remained steady, the surface flow from the overlying parking lot does not appear to be penetrating through the landfill cap. A constant dewatering

well level inside the slurry wall also suggests that groundwater is not permeating through the slurry wall and the cap and slurry wall remain intact in the vicinity of the dewatering well.

4.5 Potential Causes for Elevated Concentrations During This Event

Fluoranthene, phenanthrene, pyrene, and naphthalene were detected in two wells (MM-03 and MWC-1A), at low levels, above background concentrations measured in well MM-04 but below the Type 1 RRS. Tetra Tech examined potential causes, which may have contributed to the detection of concentrations of regulated substances above PQLs in Site monitoring wells including a change in site features, changes to groundwater levels within the slurry wall, a change in the analytical method, and the presence of an unknown source of PAHs outside the landfill.

Site features have changed from previous years when no contaminants were detected, with the most notable change involving the demolition and removal of Herndon Homes, formerly located just north of the landfill. The removal of paving and buildings may have affected groundwater flow patterns (both horizontally and vertically). Data collected during annual sampling events during the months of December and January (from 2006 to the current reporting period) suggest water levels measured in wells in the northeastern corner have remained static since the demolition was completed, with little change regarding upward and downward migration.

The groundwater level within the slurry wall was assessed, to the extent possible, near the dewatering well to verify that the groundwater level inside the slurry wall was lower than outside its perimeter. A water level equal to or greater than the slurry wall would suggest a breach in the slurry wall.

Historical groundwater trends indicate that the groundwater level within the slurry wall in the vicinity of the dewatering well consistently remains below six feet from the top of the slurry wall at its lowest point (the northwest corner, near the dewatering well) and does not indicate any problems with the physical integrity of the slurry wall. Since the historical dewatering well levels inside the slurry wall have remained steady, the surface flow from the overlying parking lot does not appear to be penetrating through the landfill cap. A constant dewatering well level inside the slurry wall also suggests that groundwater is not permeating through the slurry wall and the cap and slurry wall remain intact in the vicinity of the dewatering well.

Analytical methods used prior to the 9th Annual Groundwater Sampling Event (conducted in January 2015), adhered to the methods as defined in the M&M Plan (EPA SW-846 Method 8310 for PAHs, EPA SW-846 Method 6010C for metals and EPA SW-846 Method 7470A for mercury). These methods were replaced with

Method 8270D-SIM for PAHs and Method 6020A for metals. Laboratories contend these methods are better choices to eliminate interferences and therefore the laboratories no longer perform Method 8310 for PAHs and Method 6010C for metals. The low-level contamination may have been undetected during previous sampling events due to interferences, and the revised analytical method may have detected the contaminants because the new method is less affected by interferences.

Detections of PAHs in the background well in 2015 suggest that there may be a source of PAHs outside of the slurry wall and landfill. The new low-level detections may indicate that some contaminants may have been present in groundwater at very low levels since monitoring began at the Site, but were only now detected by the improved method, which removes interferences at low levels. Tetra Tech recommended sampling for SVOCs to establish a baseline with the revised analytical method. In correspondence dated March 29, 2016, GA EPD approved the additional analysis for the following wells: MM-03, MM-04, MWC-1C and MWC-3C. Excluding the PAH detections, analytical results for the additional SVOC analysis performed were below the laboratory's Limit of Quantitation (LOQ) in all four proposed sampling locations.

5.0 NON-RESIDENTIAL USAGE OF PROPERTY

As stipulated in the revised M&M Plan, any use of the landfill must preserve the integrity and effectiveness of the soil cap and liner system of the landfill. Currently, the landfill site is only used for non-residential purposes. A parking lot has been constructed on top of the landfill, and the associated features extend to the east and to the south of the landfill. To the north of the landfill, the former Herndon Homes have been demolished and the property is currently a fenced-in, unoccupied grassy area containing clusters of trees. These features ensure the landfill use remains non-residential. Although the parking lot may act as a staging area for events on occasion, at no time will GWCC allow the staging activities to penetrate the asphalt cover, concrete cap, the soil cap, or soil-bentonite slurry wall.

5.1 Non-Residential Use Inspection Results

The quarterly engineering inspections performed during 2016 by the Tetra Tech Professional Engineer verified that the use of the landfill remained non-residential. Tetra Tech reviewed existing contracts and lease agreements, and Tetra Tech spoke to the GWCC Maintenance/Physical Plant Manager to verify that the use of the property has remained non-residential. Currently, the institutional controls are in place and the uses of the property conform to the restrictions placed on the property. The signed certification signifying the veracity of the statements made in this section is included in the page following the cover page of this document.

6.0 CONCLUSIONS AND RECOMMENDATIONS

During the 11th Annual Groundwater Sampling Event, four site regulated PAHs including phenanthrene, naphthalene, fluoranthene, and pyrene were detected in site wells. All concentrations were below Type I RRS values and at or near the limit of quantitation.

Review of the dewatering well level within the landfill slurry wall and cap partition indicates that the groundwater level within the slurry wall in the vicinity of the dewatering well is below six feet from the top of the slurry wall at its lowest point (the northwest corner, near the dewatering well) and does not appear to pose a threat of release in this area. Since the historical dewatering well levels inside the slurry wall have remained steady, the surface flow from the overlying parking lot is not believed to be penetrating through the landfill cap. A constant dewatering well level inside the slurry wall also suggests that groundwater is not permeating through the slurry wall and the cap and slurry wall remain intact near the dewatering well.

The low-level contamination has likely been present and the revised analytical method can better detect it due to less interferences. Tetra Tech will continue to monitor concentrations to establish trends. During this reporting period, Tetra Tech sampled for SVOC by SW-846 Method 8270D in MM-04 (the background well), MM-03, MWC-1A, MWC-3C to determine if additional SVOCs are present and to establish a baseline with the revised analytical method. Laboratory analytical results did not reveal any SVOC detections above the reporting limit. Because PAH detections remained at concentrations previously observed and no additional SVOCs were detected above the laboratory reporting limit, Tetra Tech recommends discontinuing SVOC analysis at MM-04, MM-03, MWC-1A, MWC-3C.

Tetra Tech has conducted eleven annual groundwater sampling events. During this time, laboratory analytical results have remained consistent and below Type I RRS values. In correspondence with GA EPD dated March 29, 2016, GA EPD accepted a biannual reduced sampling approach. This reduced approach samples a subset of wells (MM-04, MM-03, MWC-1C, and MWC-3C) beginning in 2017 and alternating with sample collection from all site wells the following year. During odd years, when samples are only collected from the subset of monitoring wells, groundwater elevations will be collected twice per year (June 2017 and December 2017). Tetra Tech will continue to conduct quarterly landfill maintenance and inspections on a quarterly basis.

In addition, as required by the revised M&M Plan, please note the contact information below.

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7.0 DEVIATIONS FROM THE M&M PLAN/GA EPD COMMENTS

This section was added to the report to describe any deviations from the revised M&M Plan that occurred during the current sampling event. This section will serve as an official record for any such deviations.

1. The dewatering well was not sampled; therefore, field parameters were not measured at this location as described in Section 3.1.2 of the revised M&M Plan: "The groundwater monitoring plan will consist of the following activities: Measurements of field parameters…for all groundwater monitoring wells and the dewatering well…"
2. Three well volumes were not removed from MWC-1B and MWC-1C. In correspondence with GA EPD dated September 12, 2014, GA EPD approved the use of Tubing-Screened-Interval (low flow/low stress) sampling techniques for these two wells. Sampling was conducted in accordance with section 3.2.2, *Groundwater Sampling*, SESD-PROC-301-R3.
3. Wells MM-03, MM-04, MWC-1C and MWC-3C were additionally analyzed for SVOCs using EPA SW-846 Method 8270C in order to determine if additional SVOCs are present and to establish a baseline with the revised analytical method

8.0 REFERENCES

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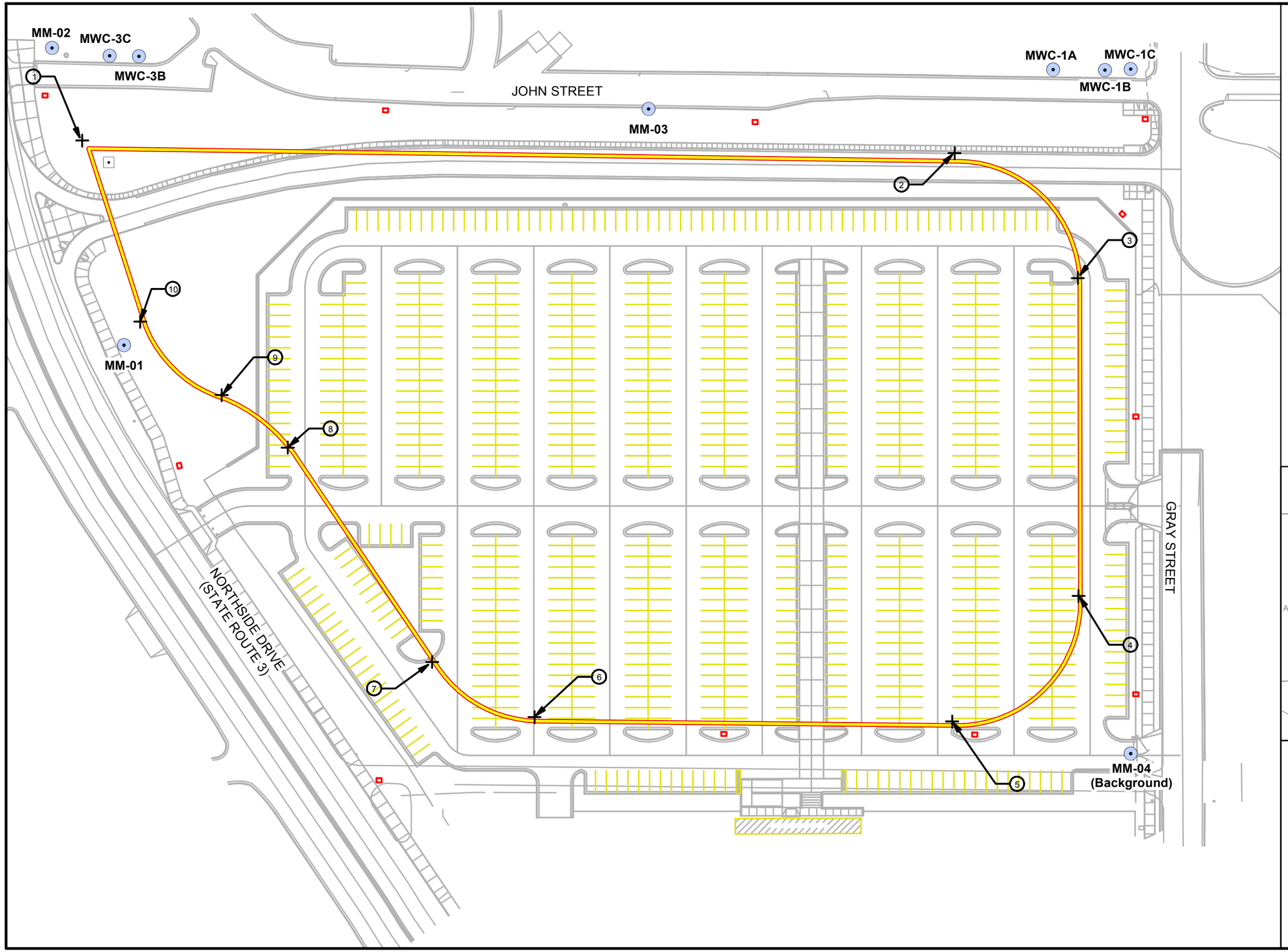
ENCLOSURE 1

FIGURES

(Four Pages)



Legend

- Dewatering Well
- Existing Monitoring Well
- Property Monument
- Slurry wall
- (#) Reference Points

N
W E
S

0 40 80
Feet

Map Source:
Modified from Williams-Russell & Johnson, Inc.

FIGURE 1

Site Location and Layout

Proj. Name: 11th Annual Groundwater Sampling Event
December 5-6, 2016
Northside Drive Landfill Site

Client: Georgia World Congress Center

City:	**County:**	**State:**
Atlanta	Fulton	Georgia

TETRA TECH

Date: 1/12/2017
Analyst: dale.vonbusch

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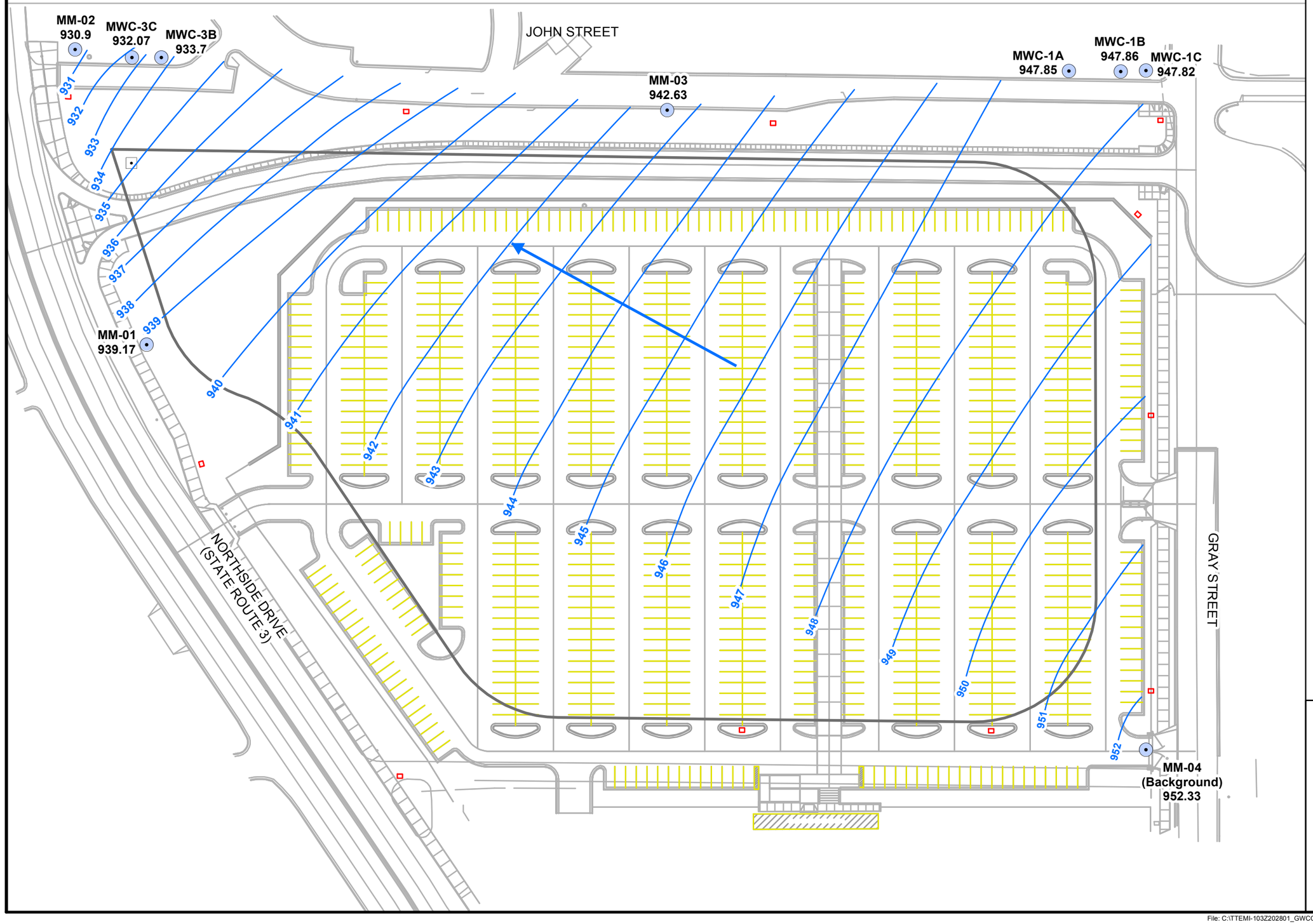

Legend

- Dewatering Well
- Existing Monitoring Well
- Groundwater Contour
- Groundwater Flow Direction
- Property Monument
- Slurry wall
- 932 — Groundwater elevations according to height above mean sea level, measured from the well top of casing

N
W E
S

0 40 80
Feet

Map Source:
Modified from Williams-Russell & Johnson, Inc.

FIGURE 2

Potentiometric Map

Proj. Name: 11th Annual Groundwater Sampling Event
December 5-6, 2016
Northside Drive Landfill Site

Client: Georgia World Congress Center

City: Atlanta
County: Fulton
State: Georgia

TETRA TECH

Date: 1/12/2017
Analyst: dale.vonbusch

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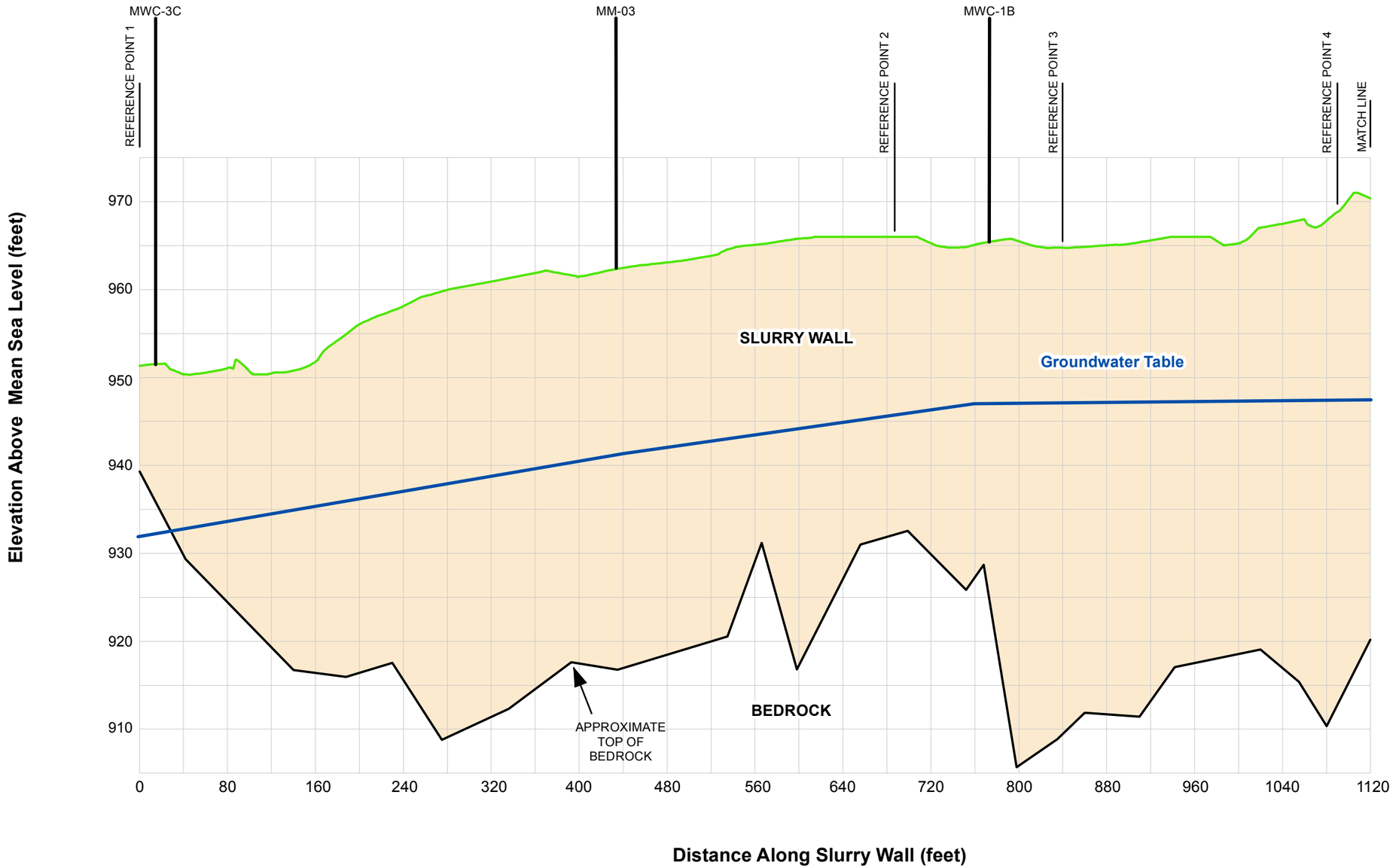

Legend

- Approximate top of bedrock
- Groundwater table outside slurry wall
- Approximate top of slurry wall

Note:
Reference points located on Figure 1

N
W E
S

Scale located on axes

Map Source:
Modified from Tetra Tech 2001
Elevations from drawing specifications, not As-Builts

FIGURE 3
Subsurface Cross Section
of Slurry Wall Perimeter

Proj. Name: 11th Annual Groundwater Sampling Event
December 5-6, 2016
Northside Drive Landfill Site

Client: Georgia World Congress Center

City: Atlanta
County: Fulton
State: Georgia

TETRA TECH

Date: 1/30/2017
Analyst: dale.vonbusch

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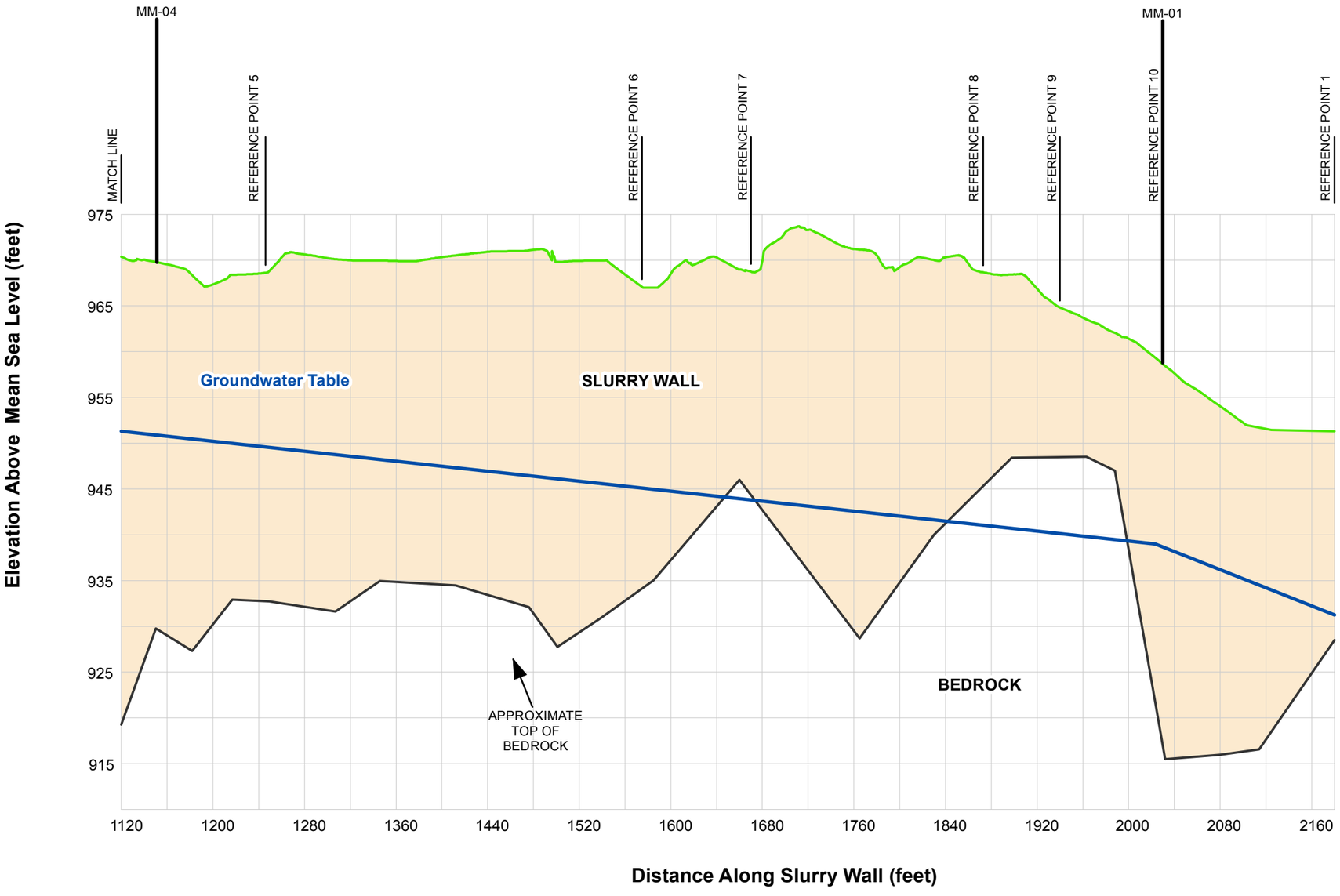

Legend

- Approximate top of bedrock
- Groundwater table outside slurry wall
- Approximate top of slurry wall

Note:
Reference points located on Figure 1

N
W E
S

Scale located on axes

Map Source:
Modified from Tetra Tech 2001
Elevations from drawing specifications, not As-Builts

FIGURE 4
Subsurface Cross Section
of Slurry Wall Perimeter

Proj. Name: 11th Annual Groundwater Sampling Event
December 5-6, 2016
Northside Drive Landfill Site

Client: Georgia World Congress Center

City: Atlanta
County: Fulton
State: Georgia

TETRA TECH

Date: 1/30/2017
Analyst: dale.vonbusch

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ENCLOSURE 2

TABLES

(13 Pages)

TABLE 1
11TH ANNUAL GROUNDWATER SAMPLING REPORT
REGULATED SUBSTANCES FOR GROUNDWATER
NORTHSIDE DRIVE LANDFILL SITE

Regulated Substance	Frequency of Groundwater Monitoring[1]	Type 1 RRS (mg/L)	Analytical Method[2]
Organics			
Acenaphthene	Quarterly for 2 years, then annually	2	SW-846 8270D
Acenaphthylene	Quarterly for 2 years, then annually	PQL[a]: 0.023	SW-846 8270D
Anthracene	Quarterly for 2 years, then annually	PQL[a]: 0.0066	SW-846 8270D
Benzo(a)anthracene	Quarterly for 2 years, then annually	0.00013	SW-846 8270D
Benzo(a)pyrene	Quarterly for 2 years, then annually	0.00023	SW-846 8270D
Benzo(b)fluoranthene	Quarterly for 2 years, then annually	0.0002	SW-846 8270D
Benzo(k)fluoranthene	Quarterly for 2 years, then annually	PQL[a]: 0.00017	SW-846 8270D
Benzo(g,h,i)perylene	Quarterly for 2 years, then annually	PQL[a]: 0.00076	SW-846 8270D
Chrysene	Quarterly for 2 years, then annually	0.0002[b]	SW-846 8270D
Dibenz(a,h)anthracene	Quarterly for 2 years, then annually	0.0003	SW-846 8270D
Fluoranthene	Quarterly for 2 years, then annually	1	SW-846 8270D
Fluorene	Quarterly for 2 years, then annually	1	SW-846 8270D
Indeno(1,2,3-cd)pyrene	Quarterly for 2 years, then annually	0.00043	SW-846 8270D
Naphthalene	Quarterly for 2 years, then annually	0.02	SW-846 8270D
Phenanthrene	Quarterly for 2 years, then annually	PQL[a]: 0.0064	SW-846 8270D
Pyrene	Quarterly for 2 years, then annually	1	SW-846 8270D
Metals			
Beryllium	Quarterly for 2 years, then annually	0.004	SW-846 6020A
Lead	Quarterly for 2 years, then annually	0.015	SW-846 6020A
Mercury	Quarterly for 2 years, then annually	0.002	SW-846 7470A

Notes:

[1] Frequency of groundwater monitoring may be modified only upon receipt of EPD's approval.

[2] During laboratory procurement activities for the 9th Annual Groundwater Sampling Event, Tetra Tech learned that analytical laboratories are phasing out the 8310 PAH method and 6010C for metals analysis. These methods are being replaced with Method 8270D SIM for PAHs and Method 6020A for metals. In correspondence dated December 11, 2014, GA EPD accepted the change in analytical methods for PAHs and metals on the condition that laboratory reporting limits remain unchanged from previous reports.

[a] The PQL presented is the value provided in EPA SW-846 Method 8310 for a typical groundwater matrix in the absence of interference. Interference may cause the PQL value to increase. As such, this PQL value is provided for guidance and may not always be achieved. Note that although the analytical method changed beginning with the 9th Annual Groundwater Sampling Event, PQL values remain as provided by the original analytical method.

[b] The health based drinking water criterion for this substance/analyte is lower than the lowest currently achievable and available detection limit. According to Rule 391-3-19.07(4)(e), the detection limit or background must be the Type I groundwater concentration criterion for this substance/analyte.

mg/L Milligrams per liter

PQL Practical quantitation limit

RRS Georgia Environmental Protection Division Risk Reduction Standards

SW-846 U.S. EPA. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. Including updates I, II, IIA, IIB, III, and IIIA to the Third Edition. September 1986 through 1998.

TABLE 2
11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF GROUNDWATER FIELD PARAMETERS
NORTHSIDE DRIVE LANDFILL SITE

Well ID	Annual Sampling Event Date	TOC Elevation (ft)	Depth to Well Bottom (ft)	Depth to GW (ft)	GW Elevation (ft)	Depth to Sample Intake (ft)	pH (s.u.)	Conductivity (mS/cm)	Temp (°C)	Turbidity (NTU)
MM-04 (Background)	Dec. 28-30, 2004	970.75	45.37	17.72	953.03	NR	6.10	0.196	19.52	NA
	Dec. 20-21, 2005	970.75	45.42	18.25	952.50	NR	5.91	0.279	19.03	0.26
	Dec. 05-06, 2006	970.75	45.35	18.81	951.94	NR	5.94	0.261	19.59	0.50
	Dec. 04-05, 2007	970.75	45.10	19.76	950.99	NR	5.77	0.269	19.61	0.00
	Dec. 18-19, 2008	970.75	45.35	19.78	950.97	NR	5.59	0.246	20.07	1.15
	Dec. 16-17, 2009	970.75	45.35	17.47	953.28	NR	5.42	0.14	20.11	24
	Dec. 13-14, 2010	970.75	45.35	17.01	953.74	NR	5.93	0.153	20.30	19.8
	Dec. 14-15, 2011	970.75	45.35	16.60	954.15	35.00	5.84	0.108	21.60	0.00
	Dec. 12-13, 2012	970.75	45.35	17.84	952.91	40.00	5.37	0.155	20.90	0.61
	Dec. 10-11, 2013	970.75	45.35	17.11	953.64	21.94	6.07	0.120	18.01	0.06
	Jan. 19-20, 2015	970.75	45.35	17.31	953.44	18.00	5.78	0.114	19.30	0.00
	Dec. 22-23, 2015	970.75	45.35	16.41	954.34	17.25	8.87	0.125	19.75	0.78
	Dec. 05-06, 2016	970.75	45.35	18.42	952.33	19.42	5.97	0.097	19.70	2.50
MM-01	Dec. 28-30, 2004	953.52	NS	NS	NS	NS	NS	NS	NS	NS
	Dec. 20-21, 2005	957.52	27.57	17.81	939.71	NR	5.71	0.584	19.24	0.90
	Dec. 05-06, 2006	957.52	27.59	18.78	938.74	NR	5.88	0.341	19.42	4.30
	Dec. 04-05, 2007	957.52	27.31	19.57	937.95	NR	5.48	0.415	19.51	5.00
	Dec. 18-19, 2008	957.52	27.53	19.95	937.57	NR	5.87	0.142	19.43	21.2
	Dec. 16-17, 2009	957.52	27.53	18.42	939.10	NR	5.91	0.112	19.31	196
	Dec. 13-14, 2010	957.52	27.53	18.16	939.36	NR	6.16	0.339	19.60	104
	Dec. 14-15, 2011	957.52	27.53	18.48	939.04	20.00	5.81	0.294	19.70	1.95
	Dec. 12-13, 2012	957.52	27.53	19.38	938.14	22.00	5.28	0.804	19.33	0.57
	Dec. 10-11, 2013	957.52	27.53	17.18	940.34	23.00	6.03	0.254	18.15	4.45
	Jan. 19-20, 2015	957.52	27.53	17.65	939.87	19.40	5.73	0.118	19.18	8.94
	Dec. 22-23 2015	957.52	27.53	17.79	939.73	21.50	7.64	0.295	19.60	15.30
	Dec. 05-06, 2016	957.52	27.53	18.35	939.17	21.00	5.71	1.050	19.40	0.00
MM-02	Dec. 28-30, 2004	941.72	16.68	10.49	931.23	NR	7.20	0.489	20.63	10.00
	Dec. 20-21, 2005	941.72	16.95	10.68	931.04	NR	6.30	0.635	21.17	0.70
	Dec. 05-06, 2006	941.72	16.91	10.88	930.84	NR	6.42	0.632	22.22	0.50
	Dec. 04-05, 2007	941.72	16.72	11.28	930.44	NR	6.31	0.611	22.71	0.00
	Dec. 18-19, 2008	941.72	16.90	11.32	930.40	NR	6.25	0.529	21.62	0.00
	Dec. 16-17, 2009	941.72	16.90	10.36	931.36	NR	6.26	0.359	20.80	158
	Dec. 13-14, 2010	941.72	16.90	10.63	931.09	NR	6.49	0.574	20.00	12.2
	Dec. 14-15, 2011	941.72	16.90	10.84	930.88	13.00	6.31	0.402	19.90	0.05
	Dec. 12-13, 2012	941.72	16.90	11.54	930.18	12.00	6.21	0.426	20.14	0.00
	Dec. 10-11, 2013	941.72	16.90	12.50	929.22	12.50	6.45	0.399	19.20	0.00
	Jan. 19-20, 2015	941.72	16.90	10.44	931.28	11.40	5.79	0.424	18.22	0.12
	Dec. 22-23 2015	941.72	16.90	10.19	931.53	11.00	8.03	0.529	19.30	0.28
	Dec. 05-06, 2016	941.72	16.90	10.82	930.90	11.82	6.29	0.497	20.70	1.00
MWC-3C	Dec. 28-30, 2004	943.12	29.07	10.31	932.81	NR	7.44	0.483	18.70	9.70
	Dec. 20-21, 2005	943.12	16.95	10.80	932.32	NR	6.50	0.735	19.60	0.00
	Dec. 05-06, 2006	943.12	29.31	10.90	932.22	NR	6.57	0.686	20.51	0.50
	Dec. 04-05, 2007	943.12	29.12	11.56	931.56	NR	6.44	0.694	19.90	0.00
	Dec. 18-19, 2008	943.12	29.30	11.54	931.58	NR	6.36	0.613	20.24	0.00
	Dec. 16-17, 2009	943.12	29.30	10.81	932.31	NR	6.41	0.402	19.74	106
	Dec. 13-14, 2010	943.12	29.30	10.76	932.36	NR	6.57	0.665	17.60	121
	Dec. 14-15, 2011	943.12	29.30	10.91	932.21	21.00	6.40	0.588	19.70	0.00
	Dec. 12-13, 2012	943.12	29.30	11.76	931.36	24.00	6.32	0.677	19.74	0.71
	Dec. 10-11, 2013	943.12	29.30	10.51	932.61	13.00	6.63	0.557	19.01	0.00
	Jan. 19-20, 2015	943.12	29.30	10.41	932.71	11.50	6.07	0.639	18.63	0.12
	Dec. 22-23 2015	943.12	29.30	10.23	932.89	11.50	8.26	0.797	18.88	0.21
	Dec. 05-06, 2016	943.12	29.30	11.05	932.07	12.05	6.51	0.630	18.80	0.00
MWC-3B	Dec. 28-30, 2004	944.8	24.68	10.29	934.51	NR	7.85	0.616	19.53	10.00
	Dec. 20-21, 2005	944.8	24.93	10.62	934.18	NR	6.82	0.856	20.02	0.36
	Dec. 05-06, 2006	944.8	24.91	11.04	933.76	NR	6.93	0.781	20.87	0.50
	Dec. 04-05, 2007	944.8	24.65	11.55	933.25	NR	6.80	0.810	20.64	0.50
	Dec. 18-19, 2008	944.8	24.88	11.54	933.26	NR	6.77	0.708	20.98	0.00
	Dec. 16-17, 2009	944.8	24.88	10.78	934.02	NR	6.80	0.465	20.40	119
	Dec. 13-14, 2010	944.8	24.88	10.80	934.00	NR	7.01	0.739	19.60	5.00
	Dec. 14-15, 2011	944.8	24.88	10.77	934.03	18.00	6.89	0.547	20.20	0.22
	Dec. 12-13, 2012	944.8	24.88	11.86	932.94	20.00	6.88	0.549	20.33	0.71
	Dec. 10-11, 2013	944.8	24.88	10.45	934.35	13.00	7.03	0.599	19.29	0.59
	Jan. 19-20, 2015	944.8	24.88	10.37	934.43	12.00	6.58	0.770	18.37	0.59
	Dec. 22-23 2015	944.8	24.88	10.20	934.60	11.00	9.04	0.952	19.29	1.03
	Dec. 05-06, 2016	944.8	24.88	11.10	933.70	12.10	6.59	0.760	19.70	0.00
MM-03 & MM-03-DUP	Dec. 28-30, 2004	957.92	30.00	14.45	943.47	NR	7.71	0.344	18.42	7.60
	Dec. 20-21, 2005	957.92	30.28	14.90	943.02	NR	5.86	0.398	19.11	0.00
	Dec. 05-06, 2006	957.92	30.22	14.79	943.13	NR	6.01	0.394	19.99	0.50
	Dec. 04-05, 2007	957.92	29.95	15.81	942.11	NR	5.86	0.372	20.00	0.00
	Dec. 18-19, 2008	957.92	30.20	16.04	941.88	NR	5.76	0.347	20.32	0.00
	Dec. 16-17, 2009	957.92	30.20	15.51	942.41	NR	5.67	0.185	19.84	101
	Dec. 13-14, 2010	957.92	30.20	15.78	942.14	NR	6.01	0.273	19.80	7.70
	Dec. 14-15, 2011	957.92	30.20	14.09	943.83	24.00	5.89	0.324	19.90	0.53
	Dec. 12-13, 2012	957.92	30.20	16.13	941.79	25.00	5.70	0.362	20.06	1.10
	Dec. 10-11, 2013	957.92	30.20	14.93	942.99	17.00	6.03	0.224	20.00	0.41
	Jan. 19-20, 2015	957.92	30.20	14.49	943.43	16.50	4.92	0.228	19.84	0.15
	Dec. 22-23 2015	957.92	30.20	14.26	943.66	16.50	5.87	0.243	19.76	0.27
	Dec. 05-06, 2016	957.92	30.20	15.29	942.63	17.00	5.84	0.227	20.80	0.00

TABLE 2
11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF GROUNDWATER FIELD PARAMETERS
NORTHSIDE DRIVE LANDFILL SITE

Well ID	Annual Sampling Event Date	TOC Elevation (ft)	Depth to Well Bottom (ft)	Depth to GW (ft)	GW Elevation (ft)	Depth to Sample Intake (ft)	pH (s.u.)	Conductivity (mS/cm)	Temp (°C)	Turbidity (NTU)
MWC-1A	Dec. 28-30, 2004	961.1	18.53	11.83	949.27	NR	8.40	0.231	19.90	7.80
	Dec. 20-21, 2005	961.1	18.81	12.38	948.72	NR	5.62	0.299	19.66	0.23
	Dec. 05-06, 2006	961.1	12.51	11.99	949.11	NR	5.97	0.285	19.39	5.98
	Dec. 04-05, 2007	961.1	12.51	Not sampled due to insufficient water						
	Dec. 18-19, 2008	961.1	12.51	Not sampled due to insufficient water						
	Dec. 16-17, 2009	961.1	12.51	Not sampled due to insufficient water						
	Dec. 13-14, 2010	961.1	13.99	Not sampled due to insufficient water						
	Dec. 14-15, 2011	961.1	13.99	13.26	947.84	13.60	5.54	0.224	19.4	0.04
	Dec. 12-13, 2012	961.1	18.42	13.60	947.50	13.00	5.25	0.279	19.2	0.31
	Dec. 10-11, 2013	961.1	18.42	12.75	948.35	15.00	5.91	0.199	18.48	0.31
	Jan. 19-20, 2015	961.1	18.42	12.52	948.58	13.50	5.01	0.203	18.18	0.98
	Dec. 22-23 2015	961.1	18.42	12.47	948.63	13.50	5.89	0.566	18.39	1.22
	Dec. 05-06, 2016	961.1	18.42	13.25	947.85	14.25	5.57	0.106	18.90	0.00
MWC-1B	Dec. 28-30, 2004	960.77	55.46	11.52	949.25	NR	6.27	0.280	19.02	5.90
	Dec. 20-21, 2005	960.77	55.74	12.08	948.69	NR	5.79	0.372	18.77	0.50
	Dec. 05-06, 2006	960.77	55.72	11.90	948.87	NR	5.97	0.370	19.55	0.00
	Dec. 04-05, 2007	960.77	55.45	13.00	947.77	NR	5.80	0.393	19.03	0.00
	Dec. 18-19, 2008	960.77	55.68	12.93	947.84	NR	5.70	0.361	19.90	0.00
	Dec. 16-17, 2009	960.77	55.68	12.06	948.71	NR	5.73	0.227	19.75	31.0
	Dec. 13-14, 2010	960.77	55.68	12.84	947.93	NR	5.89	0.006	20.40	0.50
	Dec. 14-15, 2011	960.77	55.68	13.00	947.77	51.00	5.36	0.419	20.80	1.94
	Dec. 12-13, 2012	960.77	55.68	13.42	947.35	50.00	5.62	0.595	19.92	0.85
	Dec. 10-11, 2013	960.77	55.68	12.45	948.32	19.87	5.90	0.396	18.83	1.59
	Jan. 19-20, 2015	960.77	55.68	12.19	948.58	15.60	4.85	0.404	18.84	0.19
	Dec. 22-23 2015	960.77	55.68	12.02	948.75	50.00	5.77	0.499	18.17	0.41
	Dec. 05-06, 2016	960.77	55.68	12.91	947.86	53.00	5.74	0.372	19.20	1.10
MWC-1C	Dec. 28-30, 2004	960.38	77.23	11.00	949.38	NR	7.33	0.462	19.63	8.00
	Dec. 20-21, 2005	960.38	77.50	11.35	949.03	NR	6.01	0.603	19.26	2.14
	Dec. 05-06, 2006	960.38	77.51	11.46	948.92	NR	6.20	0.589	19.11	0.00
	Dec. 04-05, 2007	960.38	77.23	14.27	946.11	NR	5.99	0.612	20.75	0.00
	Dec. 18-19, 2008	960.38	76.45	12.87	947.51	NR	5.87	0.556	20.13	0.00
	Dec. 16-17, 2009	960.38	76.45	11.86	948.52	NR	6.08	0.339	20.99	7.00
	Dec. 13-14, 2010	960.38	76.45	12.30	948.08	NR	5.89	0.617	20.70	0.30
	Dec. 14-15, 2011	960.38	76.45	12.45	947.93	71.00	5.73	0.561	20.60	0.00
	Dec. 12-13, 2012	960.38	76.45	13.08	947.30	71.00	5.79	0.787	20.21	0.16
	Dec. 10-11, 2013	960.38	76.45	11.94	948.44	36.02	6.17	0.591	19.07	0.19
	Jan. 19-20, 2015	960.38	76.45	11.79	948.59	25.00	5.13	0.571	19.27	0.37
	Dec. 22-23 2015	960.38	76.45	11.42	948.96	70.00	6.05	0.570	18.64	1.56
	Dec. 05-06, 2016	960.38	76.45	12.56	947.82	74.00	6.00	0.493	19.40	0.00
DWW	Dec. 28-30, 2004	949.3	NR	12.95	936.35	NA	NA	NA	NA	NA
	Dec. 20-21, 2005	951.3	18.93	14.69	936.61	NA	NA	NA	NA	NA
	Dec. 05-06, 2006	951.3	18.89	15.32	935.98	NA	NA	NA	NA	NA
	Dec. 04-05, 2007	951.3	18.70	16.01	935.29	NA	NA	NA	NA	NA
	Dec. 18-19, 2008	951.3	18.90	16.06	935.24	NA	NA	NA	NA	NA
	Dec. 16-17, 2009	951.3	18.90	14.85	936.45	NA	NA	NA	NA	NA
	Dec. 13-14, 2010	951.3	18.90	14.91	936.39	NA	NA	NA	NA	NA
	Dec. 14-15, 2011	951.3	18.90	14.95	936.35	NA	NA	NA	NA	NA
	Dec. 12-13, 2012	951.3	18.90	15.98	935.32	NA	NA	NA	NA	NA
	Dec. 10-11, 2013	951.3	18.90	14.41	936.89	NA	NA	NA	NA	NA
	Jan. 19-20, 2015	951.3	18.90	14.24	937.06	NA	NA	NA	NA	NA
	Dec. 22-23 2015	951.3	18.90	14.19	937.11	NA	NA	NA	NA	NA
	Dec. 05-06, 2016	951.3	18.90	15.05	936.25	NA	NA	NA	NA	NA

Notes:

°C	Degree Celsius
ft	Feet
GW	Groundwater
ID	Identification
mS/cm	Millisiemens per centimeter
NA	Not analyzed
NR	Not recorded
NS	Not sampled; in 2004 MM-01 was covered with approximately 9 feet of soil and debris
NTU	Nephelometric Turbidity Units
s.u.	standard units
Temp	Temperature
TOC	Top of casing, relative to corrected elevation above mean sea level.
	Parameters collected during relevant annual sampling event.

Depths recorded are measured as depths below TOC
Well redevelopment took place Nov 15-16, 2011, contributing to generally lower turbidity values

TABLE 3
11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF METALS ANALYTICAL RESULTS
NORTHSIDE DRIVE LANDFILL SITE

Well ID	Annual Sampling Event Date	Beryllium (µg/L)	Lead (µg/L)	Mercury (µg/L)
RRS		4	15	2
MM-04 (Background)	Dec. 28-30, 2004	< 3	< 15	< 0.5
	Dec. 20-21, 2005	< 3	< 15	< 0.5
	Dec. 05-06, 2006	< 3	< 15	< 0.5
	Dec. 04-05, 2007	< 3	< 15	< 0.5
	Dec. 18-19, 2008	< 10.0	< 10.0	< 0.20
	Dec. 16-17, 2009	< 10.0	< 10.0	< 0.20
	Dec. 13-14, 2010	< 10.0	< 10.0	< 0.20
	Dec. 14-15, 2011	< 1.0	< 1.0	< 0.20
	Dec. 12-13, 2012	< 5.0	< 15	< 0.20
	Dec. 10-11, 2013	< 4.0	< 15	< 0.20
	Jan. 19-20, 2015	< 4.0	< 15	<0.20
	Dec. 22-23, 2015	< 4.0	< 15	<0.20
	Dec. 05-06, 2016	< 4.0	< 15	<0.20
MM-01	Dec. 28-30, 2004	NS	NS	NS
	Dec. 20-21, 2005	< 3	< 15	< 0.5
	Dec. 05-06, 2006	< 3	< 15	< 0.5
	Dec. 04-05, 2007	< 3	< 15	< 0.5
	Dec. 18-19, 2008	< 10.0	< 10.0	< 0.20
	Dec. 16-17, 2009	< 10.0	< 10.0	0.06 J
	Dec. 13-14, 2010	< 10.0	< 10.0	< 0.20
	Dec. 14-15, 2011	< 1.0	< 1.0	< 0.20
	Dec. 12-13, 2012	< 5.0	< 15	< 0.20
	Dec. 10-11, 2013	< 4.0	< 15	< 0.20
	Jan. 19-20, 2015	< 4.0	< 15	<0.20
	Dec. 22-23, 2015	< 4.0	< 15	<0.20
	Dec. 05-06, 2016	< 4.0	< 15	<0.20
MM-02	Dec. 28-30, 2004	< 3	< 15	< 0.5
	Dec. 20-21, 2005	< 3	< 15	< 0.5
	Dec. 05-06, 2006	< 3	< 15	< 0.5
	Dec. 04-05, 2007	< 3	< 15	< 0.5
	Dec. 18-19, 2008	< 10.0	< 10.0	< 0.20
	Dec. 16-17, 2009	< 10.0	< 10.0	< 0.20
	Dec. 13-14, 2010	< 10.0	< 10.0	< 0.20
	Dec. 14-15, 2011	< 1.0	< 1.0	< 0.20
	Dec. 12-13, 2012	< 5.0	< 15	< 0.20
	Dec. 10-11, 2013	< 4.0	< 15	< 0.20
	Jan. 19-20, 2015	< 4.0	< 15	<0.20
	Dec. 22-23, 2015	< 4.0	< 15	<0.20
	Dec. 05-06, 2016	< 4.0	< 15	<0.20
MWC-3C	Dec. 28-30, 2004	< 3	< 15	< 0.5
	Dec. 20-21, 2005	< 3	< 15	< 0.5
	Dec. 05-06, 2006	< 3	< 15	< 0.5
	Dec. 04-05, 2007	< 3	< 15	< 0.5
	Dec. 18-19, 2008	< 10.0	< 10.0	< 0.20
	Dec. 16-17, 2009	< 10.0	< 10.0	< 0.20
	Dec. 13-14, 2010	< 10.0	< 10.0	< 0.20
	Dec. 14-15, 2011	< 1.0	< 1.0	< 0.20
	Dec. 12-13, 2012	< 5.0	< 15	< 0.20
	Dec. 10-11, 2013	< 4.0	< 15	< 0.20
	Jan. 19-20, 2015	< 4.0	< 15	<0.20
	Dec. 22-23, 2015	< 4.0	< 15	<0.20
	Dec. 05-06, 2016	< 4.0	< 15	<0.20

TABLE 3
11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF METALS ANALYTICAL RESULTS
NORTHSIDE DRIVE LANDFILL SITE

Well ID	Annual Sampling Event Date	Beryllium (µg/L)	Lead (µg/L)	Mercury (µg/L)
RRS		4	15	2
MWC-3B	Dec. 28-30, 2004	< 3	< 15	< 0.5
	Dec. 20-21, 2005	< 3	< 15	< 0.5
	Dec. 05-06, 2006	< 3	< 15	< 0.5
	Dec. 04-05, 2007	< 3	< 15	< 0.5
	Dec. 18-19, 2008	< 10.0	< 10.0	< 0.20
	Dec. 16-17, 2009	< 10.0	< 10.0	< 0.20
	Dec. 13-14, 2010	< 10.0	< 10.0	< 0.20
	Dec. 14-15, 2011	< 1.0	< 1.0	< 0.20
	Dec. 12-13, 2012	< 5.0	< 15	< 0.20
	Dec. 10-11, 2013	< 4.0	< 15	< 0.20
	Jan. 19-20, 2015	< 4.0	< 15	<0.20
	Dec. 22-23, 2015	< 4.0	< 15	<0.20
	Dec. 05-06, 2016	< 4.0	< 15	<0.20
MM-03	Dec. 28-30, 2004	< 3	< 15	< 0.5
	Dec. 20-21, 2005	< 3	< 15	< 0.5
	Dec. 05-06, 2006	< 3	< 15	< 0.5
	Dec. 04-05, 2007	< 3	< 15	< 0.5
	Dec. 18-19, 2008	< 10.0	< 10.0	< 0.20
	Dec. 16-17, 2009	< 10.0	< 10.0	< 0.20
	Dec. 13-14, 2010	< 10.0	< 10.0	< 0.20
	Dec. 14-15, 2011	< 1.0	< 1.0	< 0.20
	Dec. 12-13, 2012	< 5.0	< 15	< 0.20
	Dec. 10-11, 2013	< 4.0	< 15	< 0.20
	Jan. 19-20, 2015	< 4.0	< 15	<0.20
	Dec. 22-23, 2015	< 4.0	< 15	<0.20
	Dec. 05-06, 2016	< 4.0	< 15	<0.20
MM-03-DUP	Dec. 28-30, 2004	NS	NS	NS
	Dec. 20-21, 2005	NS	NS	NS
	Dec. 05-06, 2006	NS	NS	NS
	Dec. 04-05, 2007	NS	NS	NS
	Dec. 18-19, 2008	< 10.0	< 10.0	< 0.20
	Dec. 16-17, 2009	< 10.0	< 10.0	< 0.20
	Dec. 13-14, 2010	< 10.0	< 10.0	< 0.20
	Dec. 14-15, 2011	< 1.0	< 1.0	< 0.20
	Dec. 12-13, 2012	< 5.0	< 15	< 0.20
	Dec. 10-11, 2013	< 4.0	< 15	< 0.20
	Jan. 19-20, 2015	< 4.0	< 15	<0.20
	Dec. 22-23, 2015	< 4.0	< 15	<0.20
	Dec. 05-06, 2016	< 4.0	< 15	<0.20
MWC-1A	Dec. 28-30, 2004	< 3	< 15	< 0.5
	Dec. 20-21, 2005	< 3	< 15	< 0.5
	Dec. 05-06, 2006	< 3	< 15	< 0.5
	Dec. 04-05, 2007	Not sampled due to insufficient water		
	Dec. 18-19, 2008	Not sampled due to insufficient water		
	Dec. 16-17, 2009	Not sampled due to insufficient water		
	Dec. 13-14, 2010	Not sampled due to insufficient water		
	Dec. 14-15, 2011	< 1.0	< 1.0	< 0.20
	Dec. 12-13, 2012	< 5.0	< 15	< 0.20
	Dec. 10-11, 2013	< 4.0	< 15	< 0.20
	Jan. 19-20, 2015	< 4.0	< 15	<0.20
	Dec. 22-23, 2015	< 4.0	< 15	<0.20
	Dec. 05-06, 2016	< 4.0	< 15	<0.20

TABLE 3
11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF METALS ANALYTICAL RESULTS
NORTHSIDE DRIVE LANDFILL SITE

Well ID	Annual Sampling Event Date	Beryllium (µg/L)	Lead (µg/L)	Mercury (µg/L)
RRS		4	15	2
MWC-1B	Dec. 28-30, 2004	< 3	< 15	< 0.5
	Dec. 20-21, 2005	< 3	< 15	< 0.5
	Dec. 05-06, 2006	< 3	< 15	< 0.5
	Dec. 04-05, 2007	< 3	< 15	< 0.5
	Dec. 18-19, 2008	< 10.0	< 10.0	< 0.20
	Dec. 16-17, 2009	< 10.0	< 10.0	< 0.20
	Dec. 13-14, 2010	< 10.0	< 10.0	< 0.20
	Dec. 14-15, 2011	< 1.0	< 1.0	< 0.20
	Dec. 12-13, 2012	< 5.0	< 15	< 0.20
	Dec. 10-11, 2013	< 4.0	< 15	< 0.20
	Jan. 19-20, 2015	< 4.0	< 15	<0.20
	Dec. 22-23, 2015	< 4.0	< 15	<0.20
	Dec. 05-06, 2016	< 4.0	< 15	<0.20
MWC-1C	Dec. 28-30, 2004	< 3	< 15	< 0.5
	Dec. 20-21, 2005	< 3	< 15	< 0.5
	Dec. 05-06, 2006	< 3	< 15	< 0.5
	Dec. 04-05, 2007	< 3	< 15	< 0.5
	Dec. 18-19, 2008	< 10.0	< 10.0	< 0.20
	Dec. 16-17, 2009	< 10.0	< 10.0	0.09 J
	Dec. 13-14, 2010	< 10.0	< 10.0	< 0.20
	Dec. 14-15, 2011	< 1.0	< 1.0	< 0.20
	Dec. 12-13, 2012	< 5.0	< 15	< 0.20
	Dec. 10-11, 2013	< 4.0	< 15	< 0.20
	Jan. 19-20, 2015	< 4.0	< 15	<0.20
	Dec. 22-23, 2015	< 4.0	< 15	<0.20
	Dec. 05-06, 2016	< 4.0	< 15	<0.20

Notes:

J	Estimated value detected below Reporting Limit
µg/L	Micrograms per liter
<	Less than
NS	Not sampled; in 2004 MM-01 was covered with approximately 9 feet of soil and debris. MM-03-DUP not collected prior to 2008.
RRS	Risk Reduction Standard
	Samples collected during relevant annual sampling event

TABLE 3
11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF METALS ANALYTICAL RESULTS
NORTHSIDE DRIVE LANDFILL SITE

Notes:

J	Estimated value detected below Reporting Limit
µg/L	Micrograms per liter
<	Less than
NS	Not sampled; in 2004 MM-01 was covered with approximately 9 feet of soil and debris. MM-03-DUP not collected prior to 2008.
RRS	Risk Reduction Standard
	Samples collected during relevant annual sampling event

TABLE 4
11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS (PAH) ANALYTICAL RESULTS
NORTHSIDE DRIVE LANDFILL SITE

Well ID	Annual Sampling Event Date	Acenaphthene (µg/L)	Acenaphthylene (µg/L)	Anthracene (µg/L)	Benzo(a) anthracene (µg/L)	Benzo(a) pyrene (µg/L)	Benzo(b) fluoranthene (µg/L)	Benzo(k) fluoranthene (µg/L)	Benzo(g,h,i) perylene (µg/L)	Chrysene (µg/L)	Dibenzo(a,h) anthracene (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Indeno(1,2,3-cd)pyrene (µg/L)	Naphthalene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)
RRS		**2,000**	**23**	**6.6**	**0.13**	**0.23**	**0.2**	**0.17**	**0.76**	**0.2**	**0.3**	**1,000**	**1,000**	**0.43**	**20**	**6.4**	**1,000**
MM-04 (Background)	Dec. 28-30, 2004	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 20-21, 2005	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 05-06, 2006	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 04-05, 2007	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 18-19, 2008	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 16-17, 2009	< 1.0	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 13-14, 2010	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 14-15, 2011	< 0.50	< 1.0	< 0.050	< 0.050	< 0.050	< 0.10	< 0.10	< 0.050	< 0.050	< 0.10	< 0.10	< 0.10	< 0.050	< 0.50	< 0.050	< 0.050
	Dec. 12-13, 2012	< 1.08	< 1.08	< 0.108	< 0.108	< 0.108	< 0.161	< 0.108	< 0.269	< 0.108	< 0.108	< 0.269	< 0.538	< 0.269	< 0.538	< 0.108	< 0.269
	Dec. 10-11, 2013	< 1.18	< 1.18	< 0.118	< 0.118	< 0.118	< 0.176	< 0.118	< 0.294	< 0.118	< 0.118	< 0.294	< 0.588	< 0.294	< 0.588	< 0.118	< 0.294
	Jan. 19-20, 2015	<1.09	<1.09	<0.109	<0.109	<0.109	<0.163	<0.109	<0.272	<0.109	<0.109	<0.272	<0.543	<0.272	<0.543	<0.109	<0.272
	Dec. 22-23, 2015	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.114	<0.284	<0.114	<0.114	<0.284	<0.568	<0.284	<0.568	**0.136**	<0.284
	Dec. 05-06, 2016	<1.04	<1.04	<0.104	<0.104	<0.104	<0.156	<0.260	<0.104 J-	<0.104	<0.104 J-	<0.260	<0.521	<0.260 J-	<0.521	<0.104	<0.260
MM-01	Dec. 28-30, 2004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Dec. 20-21, 2005	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 05-06, 2006	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 04-05, 2007	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 18-19, 2008	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 16-17, 2009	< 1.0	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 13-14, 2010	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 14-15, 2011	< 0.50	< 1.0	< 0.050	< 0.050	< 0.050	< 0.10	< 0.10	< 0.050	< 0.050	< 0.10	< 0.10	< 0.10	< 0.050	< 0.50	< 0.050	< 0.050
	Dec. 12-13, 2012	< 1.08	< 1.08	< 0.108	< 0.108	< 0.108	< 0.161	< 0.108	< 0.269	< 0.108	< 0.108	< 0.269	< 0.538	< 0.269	< 0.538	< 0.108	< 0.269
	Dec. 10-11, 2013	< 1.25	< 1.25	< 0.125	< 0.125	< 0.125	< 0.188	< 0.125	< 0.313	< 0.125	< 0.125	< 0.313	< 0.625	< 0.313	< 0.625	< 0.125	< 0.313
	Jan. 19-20, 2015	<1.11	<1.11	<0.111	<0.111	<0.111	<0.163	<0.111	<0.278	<0.111	<0.111	<0.278	<0.556	<0.278	<0.556	<0.111	<0.278
	Dec. 22-23, 2015	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.114	<0.284	<0.114	<0.114	<0.284	<0.568	<0.284	<0.568	<0.114	<0.284
	Dec. 05-06, 2016	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.284	<0.114	<0.114	<0.114	<0.284	<0.568	<0.284	<0.568	<0.114	<0.284
MM-02	Dec. 28-30, 2004	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 20-21, 2005	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 05-06, 2006	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 04-05, 2007	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 18-19, 2008	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 16-17, 2009	< 1.0	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 13-14, 2010	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 14-15, 2011	< 0.50	< 1.0	< 0.050	< 0.050	< 0.050	< 0.10	< 0.10	< 0.050	< 0.050	< 0.10	< 0.10	< 0.10	< 0.050	< 0.50	< 0.050	< 0.050
	Dec. 12-13, 2012	< 1.06	< 1.06	< 0.106	< 0.106	< 0.106	< 0.160	< 0.106	< 0.266	< 0.106	< 0.106	< 0.266	< 0.532	< 0.266	< 0.532	< 0.106	< 0.266
	Dec. 10-11, 2013	< 1.05	< 1.05	< 0.105	< 0.105	< 0.105	< 0.158	< 0.105	< 0.263	< 0.105	< 0.105	< 0.263	< 0.526	< 0.263	< 0.526	< 0.105	< 0.263
	Jan. 19-20, 2015	<1.09	<1.09	<0.109	<0.109	<0.109	<0.163	<0.109	<0.272	<0.109	<0.109	<0.272	<0.543	<0.272	<0.543	<0.109	<0.272
	Dec. 22-23, 2015	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.114	<0.284	<0.114	<0.114	<0.284	<0.568	<0.284	<0.568	<0.114	<0.284
	Dec. 05-06, 2016	<1.06	<1.06	<0.106	<0.106	<0.106	<0.160	<0.266	<0.106	<0.106	<0.106	<0.266	<0.532	<0.266	<0.532	**0.172**	<0.266
MWC-3C	Dec. 28-30, 2004	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 20-21, 2005	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 05-06, 2006	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 04-05, 2007	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 18-19, 2008	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 16-17, 2009	< 1.0	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 13-14, 2010	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 14-15, 2011	< 0.50	< 1.0	< 0.050	< 0.050	< 0.050	< 0.10	< 0.10	< 0.050	< 0.050	< 0.10	< 0.10	< 0.10	< 0.050	< 0.50	< 0.050	< 0.050
	Dec. 12-13, 2012	< 1.06	< 1.06	< 0.106	< 0.106	< 0.106	< 0.160	< 0.106	< 0.266	< 0.106	< 0.106	< 0.266	< 0.532	< 0.266	< 0.532	< 0.106	< 0.266
	Dec. 10-11, 2013	< 1.11	< 1.11	< 0.111	< 0.111	< 0.111	< 0.167	< 0.111	< 0.278	< 0.111	< 0.111	< 0.278	< 0.556	< 0.278	< 0.556	< 0.111	< 0.278
	Jan. 19-20, 2015	<1.09	<1.09	<0.109	<0.109	<0.109	<0.163	<0.109	<0.272	<0.109	<0.109	<0.272	<0.543	<0.272	<0.543	<0.109	<0.272
	Dec. 22-23, 2015	<1.14	<1.14	**0.114**	<0.114	<0.114	<0.170	<0.114	<0.284	<0.114	<0.114	<0.284	<0.568	<0.284	<0.568	**0.421**	<0.284
	Dec. 05-06, 2016	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.284	<0.114	<0.114	<0.114	<0.284	<0.568	<0.284	<0.568	<0.114	<0.284
MWC-3B	Dec. 28-30, 2004	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 20-21, 2005	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 05-06, 2006	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 04-05, 2007	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 18-19, 2008	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 16-17, 2009	< 1.0	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 13-14, 2010	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 14-15, 2011	< 0.50	< 1.0	< 0.050	< 0.050	< 0.050	< 0.10	< 0.10	< 0.050	< 0.050	< 0.10	< 0.10	< 0.10	< 0.050	< 0.50	< 0.050	< 0.050
	Dec. 12-13, 2012	< 1.08	< 1.08	< 0.108	< 0.108	< 0.108	< 0.161	< 0.108	< 0.269	< 0.108	< 0.108	< 0.269	< 0.538	< 0.269	< 0.538	< 0.108	< 0.269
	Dec. 10-11, 2013	< 1.18	< 1.18	< 0.118	< 0.118	< 0.118	< 0.176	< 0.118	< 0.294	< 0.118	< 0.118	< 0.294	< 0.588	< 0.294	< 0.588	< 0.118	< 0.294
	Jan. 19-20, 2015	<1.11	<1.11	<0.111	<0.111	<0.111	<0.167	<0.111	<0.278	<0.111	<0.111	<0.278	<0.556	<0.278	<0.556	<0.111	<0.278
	Dec. 22-23, 2015	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.114	<0.284	<0.114	<0.114	<0.284	<0.568	<0.284	<0.568	**0.117**	<0.284
	Dec. 05-06, 2016	<1.04	<1.04	<0.104	<0.104	<0.104	<0.156	<0.260	<0.104	<0.104	<0.104	<0.260	<0.521	<0.260	<0.521	<0.104	<0.260

TABLE 4
11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS (PAH) ANALYTICAL RESULTS
NORTHSIDE DRIVE LANDFILL SITE

Well ID	Annual Sampling Event Date	Acenaphthene (µg/L)	Acenaphthylene (µg/L)	Anthracene (µg/L)	Benzo(a) anthracene (µg/L)	Benzo(a) pyrene (µg/L)	Benzo(b) fluoranthene (µg/L)	Benzo(k) fluoranthene (µg/L)	Benzo(g,h,i) perylene (µg/L)	Chrysene (µg/L)	Dibenzo(a,h) anthracene (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Indeno(1,2,3-cd)pyrene (µg/L)	Naphthalene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)
RRS		**2,000**	**23**	**6.6**	**0.13**	**0.23**	**0.2**	**0.17**	**0.76**	**0.2**	**0.3**	**1,000**	**1,000**	**0.43**	**20**	**6.4**	**1,000**
MM-03	Dec. 28-30, 2004	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 20-21, 2005	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 05-06, 2006	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 04-05, 2007	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 18-19, 2008	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 16-17, 2009	< 1.0	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 13-14, 2010	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 14-15, 2011	< 0.50	< 1.0	< 0.050	< 0.050	< 0.050	< 0.10	< 0.10	< 0.050	< 0.050	< 0.10	< 0.10	**0.20**	< 0.050	**4.4**	**0.31**	< 0.050
	Dec. 12-13, 2012	< 1.09	< 1.09	< 0.109	< 0.109	< 0.109	< 0.163	< 0.109	< 0.272	< 0.109	< 0.109	< 0.272	**< 0.543**	< 0.272	**2.93 J**	**0.302 J**	< 0.272
	Dec. 10-11, 2013	< 1.18	< 1.18	< 0.118	< 0.118	< 0.118	< 0.176	< 0.118	< 0.294	< 0.118	< 0.118	**0.638**	< 0.588	< 0.294	**1.76**	**0.43**	< 0.294
	Jan. 19-20, 2015	<1.09	<1.09	<0.109	<0.109	<0.109	<0.163	<0.109	<0.272	<0.109	<0.109	<0.272	<0.543	<0.272	**2.52**	<0.109	<0.272
	Dec. 22-23, 2015	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.114	<0.284	<0.114	<0.114	<0.284	<0.568	<0.284	**2.39**	**0.25**	<0.284
	Dec. 05-06, 2016	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.284	<0.114	<0.114	<0.114	<0.284	<0.568	<0.284	**2.69**	**0.309**	<0.284
MM-03-DUP	Dec. 28-30, 2004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Dec. 20-21, 2005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Dec. 05-06, 2006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Dec. 04-05, 2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Dec. 18-19, 2008	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 16-17, 2009	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 13-14, 2010	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 14-15, 2011	< 0.50	< 1.0	< 0.050	< 0.050	< 0.050	< 0.10	< 0.10	< 0.050	< 0.050	< 0.10	< 0.10	**0.18**	< 0.050	**4.3**	**0.31**	< 0.050
	Dec. 12-13, 2012	< 1.06	< 1.06	< 0.106	< 0.106	< 0.106	< 0.160	< 0.106	< 0.266	< 0.106	< 0.106	< 0.266	**< 0.532**	< 0.266	**< 0.532 J**	**< 0.106 J**	< 0.266
	Dec. 10-11, 2013	< 1.11	< 1.11	< 0.111	< 0.111	< 0.111	< 0.167	< 0.111	< 0.278	< 0.111	< 0.111	**0.556**	< 0.556	< 0.278	**1.58**	**0.414**	< 0.278
	Jan. 19-20, 2015	<1.11	<1.11	<0.111	<0.111	<0.111	<0.167	<0.111	<0.278	<0.111	<0.111	<0.278	<0.556	<0.278	**1.93**	<0.111	<0.278
	Dec. 22-23, 2015	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.114	<0.284	<0.114	<0.114	<0.284	<0.568	<0.284	**2.5**	**0.259**	<0.284
	Dec. 05-06, 2016	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.284	<0.114	<0.114	<0.114	<0.284	<0.568	<0.284	**2.56**	**0.304**	<0.284
MWC-1A	Dec. 28-30, 2004	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 20-21, 2005	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 05-06, 2006	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 04-05, 2007	Not sampled due to insufficient water															
	Dec. 18-19, 2008	Not sampled due to insufficient water															
	Dec. 16-17, 2009	Not sampled due to insufficient water															
	Dec. 13-14, 2010	Not sampled due to insufficient water															
	Dec. 14-15, 2011	< 0.50	< 1.0	< 0.050	< 0.050	< 0.050	< 0.10	< 0.10	< 0.050	< 0.050	< 0.10	**3.0**	< 0.10	< 0.050	< 0.50	**0.051**	**1.8**
	Dec. 12-13, 2012	< 1.06	< 1.06	< 0.106	< 0.106	< 0.106	< 0.160	< 0.106	< 0.266	< 0.106	< 0.106	**3.3**	< 0.532	< 0.266	< 0.532	**< 0.106**	**1.62**
	Dec. 10-11, 2013	< 1.18	< 1.18	< 0.118	< 0.118	< 0.118	< 0.176	< 0.118	< 0.294	< 0.118	< 0.118	**0.675**	< 0.588	< 0.294	< 0.588	< 0.118	**0.406**
	Jan. 19-20, 2015	<1.09	<1.09	<0.109	<0.109	<0.109	<0.163	<0.109	<0.272	<0.109	<0.109	**0.330**	<0.543	<0.272	<0.543	<0.109	<0.272
	Dec. 22-23, 2015	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.114	<0.284	<0.114	<0.114	**3.22**	<0.568	<0.284	<0.568	<0.114	**1.74**
	Dec. 05-06, 2016	<1.06	<1.06	<0.106	<0.106	<0.106	<0.160	<0.266	<0.106	<0.106	<0.106	**4.02**	<0.532	<0.266	<0.532	<0.106	**2.61**
MWC-1B	Dec. 28-30, 2004	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 20-21, 2005	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 05-06, 2006	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 04-05, 2007	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 18-19, 2008	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 16-17, 2009	< 1.0	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 13-14, 2010	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 14-15, 2011	< 0.50	< 1.0	< 0.050	< 0.050	< 0.050	< 0.10	< 0.10	< 0.050	< 0.050	< 0.10	< 0.10	< 0.10	< 0.050	< 0.50	< 0.050	< 0.050
	Dec. 12-13, 2012	< 1.05	< 1.05	< 0.105	< 0.105	< 0.105	< 0.158	< 0.105	< 0.263	< 0.105	< 0.105	< 0.263	< 0.526	< 0.263	< 0.526	< 0.105	< 0.263
	Dec. 10-11, 2013	< 1.11	< 1.11	< 0.111	< 0.111	< 0.111	< 0.167	< 0.111	< 0.278	< 0.111	< 0.111	< 0.278	< 0.556	< 0.278	< 0.556	< 0.111	< 0.278
	Jan. 19-20, 2015	<1.11	<1.11	<0.111	<0.111	<0.111	<0.167	<0.111	<0.278	<0.111	<0.111	<0.278	<0.556	<0.278	<0.556	<0.111	<0.278
	Dec. 22-23, 2015	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.114	<0.284	<0.114	<0.114	<0.284	<0.568	<0.284	**7.42**	**0.239**	<0.284
	Dec. 05-06, 2016	<1.16	<1.16	<0.116	<0.116	<0.116	<0.174	<0.291	<0.116	<0.116	<0.116	<0.291	<0.581	<0.291	<0.581	<0.116	<0.291
MWC-1C	Dec. 28-30, 2004	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 20-21, 2005	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 05-06, 2006	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 04-05, 2007	< 1.0	< 1.0	< 1.0	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
	Dec. 18-19, 2008	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 16-17, 2009	< 1.0	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 13-14, 2010	< 1.0	< 1.0	< 0.20	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 1.0	< 0.50	< 0.20
	Dec. 14-15, 2011	< 0.50	< 1.0	< 0.050	< 0.050	< 0.050	< 0.10	< 0.10	< 0.050	< 0.050	< 0.10	< 0.10	< 0.10	< 0.050	< 0.50	< 0.050	< 0.050
	Dec. 12-13, 2012	< 1.09	< 1.09	< 0.109	< 0.109	< 0.109	< 0.163	< 0.109	< 0.272	< 0.109	< 0.109	< 0.272	< 0.543	< 0.272	< 0.543	< 0.109	< 0.272
	Dec. 10-11, 2013	< 1.11	< 1.11	< 0.111	< 0.111	< 0.111	< 0.167	< 0.111	< 0.278	< 0.111	< 0.111	< 0.278	< 0.556	< 0.278	< 0.556	< 0.111	< 0.278
	Jan. 19-20, 2015	<1.09	<1.09	<0.109	<0.109	<0.109	<0.163	<0.109	<0.272	<0.109	<0.109	<0.272	<0.543	<0.272	<0.543	<0.109	<0.272
	Dec. 22-23, 2015	<1.14	<1.14	<0.114	<0.114	<0.114	<0.170	<0.114	<0.284	<0.114	<0.114	<0.284	<0.568	<0.284	<0.568	<0.114	<0.284
	Dec. 05-06, 2016	<1.11	<1.11	<0.111	<0.111	<0.111	<0.167	<0.278	<0.111	<0.111	<0.111	<0.278	<0.556	<0.278	<0.556	<0.111	<0.278

TABLE 4

11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS (PAH) ANALYTICAL RESULTS
NORTHSIDE DRIVE LANDFILL SITE

Notes:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample
RRS	Risk Reduction Standard
µg/L	Micrograms per liter
NS	Not sampled; in 2004 MM-01 was covered with approximately 9 feet of soil and debris. MM-03-DUP not collected prior to 2008.
<	Less than
BOLD	Analyte detected above analytical method's practical quantitation limit
	Samples collected during relevant annual sampling event

TABLE 5
11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS (SVOC) ANALYTICAL RESULTS
NORTHSIDE DRIVE LANDFILL SITE

Parameter	EPA MCL (µg/L)	Sample Identification					
		MM-01	MM-02	MM-03	MM-03-DUP	MM-04	MWC-1A
SVOCs (µg/L)							
2,4,5-Trichlorophenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
2,4,6-Trichlorophenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
2,4-Dichlorophenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
2,4-Dimethylphenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
2,4-Dinitrophenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
2,4-Dinitrotoluene	NA*	NA	NA	<10.6	<10.5	<10.5	NA
2,6-Dinitrotoluene	NA*	NA	NA	<10.6	<10.5	<10.5	NA
2-Chloronaphthalene	NA*	NA	NA	<10.6	<10.5	<10.5	NA
2-Chlorophenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
2-Nitroaniline	NA*	NA	NA	<10.6	<10.5	<10.5	NA
2-Nitrophenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
3,3'-Dichlorobenzidine	NA*	NA	NA	<10.6	<10.5	<10.5	NA
3-Nitroaniline	NA*	NA	NA	<10.6	<10.5	<10.5	NA
4,6-Dinitro-2-methylphenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
4-Bromophenyl phenyl ether	NA*	NA	NA	<10.6	<10.5	<10.5	NA
4-Chloro-3-methylphenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
4-Chloroaniline	NA*	NA	NA	<10.6	<10.5	<10.5	NA
4-Chlorophenyl phenyl ether	NA*	NA	NA	<10.6	<10.5	<10.5	NA
4-Nitroaniline	NA*	NA	NA	<10.6	<10.5	<10.5	NA
4-Nitrophenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Acetophenone	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Atrazine	3	NA	NA	<53.2	<52.6	<52.6	NA
Benzaldehyde	NA*	NA	NA	<53.2	<52.6	<52.6	NA
Biphenyl	NA*	NA	NA	<10.6	<10.5	<10.5	NA
bis(2-Chloroethoxy)methane	NA*	NA	NA	<10.6	<10.5	<10.5	NA
bis(2-Chloroethyl)ether	NA*	NA	NA	<10.6	<10.5	<10.5	NA
bis(2-Chloroisopropyl)ether	NA*	NA	NA	<10.6	<10.5	<10.5	NA
bis(2-Ethylhexyl)phthalate	6	NA	NA	<10.6	<10.5	<10.5	NA
Butyl benzyl phthalate	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Caprolactam	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Carbazole	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Dibenzofuran	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Diethyl phthalate	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Dimethyl phthalate	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Di-n-butyl phthalate	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Di-n-octyl phthalate	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Hexachlorobenzene	1	NA	NA	<10.6	<10.5	<10.5	NA
Hexachlorobutadiene	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Hexachlorocyclopentadiene	50	NA	NA	<10.6	<10.5	<10.5	NA
Isophorone	NA*	NA	NA	<10.6	<10.5	<10.5	NA
m,p-Cresol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Nitrobenzene	NA*	NA	NA	<10.6	<10.5	<10.5	NA
n-Nitrosodi-n-propylamine	NA*	NA	NA	<10.6	<10.5	<10.5	NA
n-Nitrosodiphenylamine	NA*	NA	NA	<10.6	<10.5	<10.5	NA
o-Cresol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Pentachlorophenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA
Phenol	NA*	NA	NA	<10.6	<10.5	<10.5	NA

TABLE 5
11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS (SVOC) ANALYTICAL RESULTS
NORTHSIDE DRIVE LANDFILL SITE

Parameter	EPA MCL (µg/L)	Sample Identification					
		MWC-1B	MWC-1C	MWC-3B	MWC-3C	GWCC-EQ	GWCC-FB
SVOCs (µg/L)							
2,4,5-Trichlorophenol	NA*	NA	<10.5	NA	<10.9	NA	NA
2,4,6-Trichlorophenol	NA*	NA	<10.5	NA	<10.9	NA	NA
2,4-Dichlorophenol	NA*	NA	<10.5	NA	<10.9	NA	NA
2,4-Dimethylphenol	NA*	NA	<10.5	NA	<10.9	NA	NA
2,4-Dinitrophenol	NA*	NA	<10.5	NA	<10.9	NA	NA
2,4-Dinitrotoluene	NA*	NA	<10.5	NA	<10.9	NA	NA
2,6-Dinitrotoluene	NA*	NA	<10.5	NA	<10.9	NA	NA
2-Chloronaphthalene	NA*	NA	<10.5	NA	<10.9	NA	NA
2-Chlorophenol	NA*	NA	<10.5	NA	<10.9	NA	NA
2-Nitroaniline	NA*	NA	<10.5	NA	<10.9	NA	NA
2-Nitrophenol	NA*	NA	<10.5	NA	<10.9	NA	NA
3,3'-Dichlorobenzidine	NA*	NA	<10.5	NA	<10.9	NA	NA
3-Nitroaniline	NA*	NA	<10.5	NA	<10.9	NA	NA
4,6-Dinitro-2-methylphenol	NA*	NA	<10.5	NA	<10.9	NA	NA
4-Bromophenyl phenyl ether	NA*	NA	<10.5	NA	<10.9	NA	NA
4-Chloro-3-methylphenol	NA*	NA	<10.5	NA	<10.9	NA	NA
4-Chloroaniline	NA*	NA	<10.5	NA	<10.9	NA	NA
4-Chlorophenyl phenyl ether	NA*	NA	<10.5	NA	<10.9	NA	NA
4-Nitroaniline	NA*	NA	<10.5	NA	<10.9	NA	NA
4-Nitrophenol	NA*	NA	<10.5	NA	<10.9	NA	NA
Acetophenone	NA*	NA	<10.5	NA	<10.9	NA	NA
Atrazine	3	NA	<52.6	NA	<54.3	NA	NA
Benzaldehyde	NA*	NA	<52.6	NA	<54.3	NA	NA
Biphenyl	NA*	NA	<10.5	NA	<10.9	NA	NA
bis(2-Chloroethoxy)methane	NA*	NA	<10.5	NA	<10.9	NA	NA
bis(2-Chloroethyl)ether	NA*	NA	<10.5	NA	<10.9	NA	NA
bis(2-Chloroisopropyl)ether	NA*	NA	<10.5	NA	<10.9	NA	NA
bis(2-Ethylhexyl)phthalate	6	NA	<10.5	NA	<10.9	NA	NA
Butyl benzyl phthalate	NA*	NA	<10.5	NA	<10.9	NA	NA
Caprolactam	NA*	NA	<10.5	NA	<10.9	NA	NA
Carbazole	NA*	NA	<10.5	NA	<10.9	NA	NA
Dibenzofuran	NA*	NA	<10.5	NA	<10.9	NA	NA
Diethyl phthalate	NA*	NA	<10.5	NA	<10.9	NA	NA
Dimethyl phthalate	NA*	NA	<10.5	NA	<10.9	NA	NA
Di-n-butyl phthalate	NA*	NA	<10.5	NA	<10.9	NA	NA
Di-n-octyl phthalate	NA*	NA	<10.5	NA	<10.9	NA	NA
Hexachlorobenzene	1	NA	<10.5	NA	<10.9	NA	NA
Hexachlorobutadiene	NA*	NA	<10.5	NA	<10.9	NA	NA
Hexachlorocyclopentadiene	50	NA	<10.5	NA	<10.9	NA	NA
Isophorone	NA*	NA	<10.5	NA	<10.9	NA	NA
m,p-Cresol	NA*	NA	<10.5	NA	<10.9	NA	NA
Nitrobenzene	NA*	NA	<10.5	NA	<10.9	NA	NA
n-Nitrosodi-n-propylamine	NA*	NA	<10.5	NA	<10.9	NA	NA
n-Nitrosodiphenylamine	NA*	NA	<10.5	NA	<10.9	NA	NA
o-Cresol	NA*	NA	<10.5	NA	<10.9	NA	NA
Pentachlorophenol	NA*	NA	<10.5	NA	<10.9	NA	NA
Phenol	NA*	NA	<10.5	NA	<10.9	NA	NA

TABLE 5
11TH ANNUAL GROUNDWATER SAMPLING REPORT
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS (SVOC) ANALYTICAL RESULTS
NORTHSIDE DRIVE LANDFILL SITE

Notes: EPA = Environmental Protection Agency
MCL = Maximum Contaminant Level
NA = Not analyzed
µg/L = Micrograms per liter
SVOCs = Semivolatile organic compounds
* EPA Maximum Contaminant Level (MCL) not yet established

ENCLOSURE 3

LOGBOOK NOTES

(Three Pages)

Location _____ Date 12/5/16

Project / Client Annual #11 Sampling Event

0847 C. Owens & J. Williams on-site
- Weather: overcast High of 58° F
- Objective: gauge all wells and begin sampling

Well	DTW (ft)	TD (ft)	PID (BZ)	PID (WH)	ppm
MM-04	18.42	43.35	0	0.61	
MM-01	18.35	27.53	0	0	
MM-02	10.82	16.9	0	0	
MWC-3C	11.05	29.3	0	1.80	
MWC-3B	11.10	24.88	0	0	
MM-03	15.29	30.2	0	7.96	
MWC-1A	13.25	18.4	0	0	
MWC-1B	12.91	55.68	0	0	
MWC-1C	12.56	76.45	0	2.52	
DWW	15.05				

1034 Calibrate YSI
~~18.42~~ DW

1100 Begin purge on MM-04

1230 Sample MM-04 MS/MSD collected here

1314 Begin purge on MM-01

1400 Collect MM-01

Location _____ Date 12/5/16

Project / Client Annual #11

MM-01

Time	1348	1353	1358
Temp	19.6	19.6	19.4
pH	5.71	5.71	5.71
sp Cond	1.05	1.05	1.05
Turb	0	0	0
Depth	20.38	20.42	20.43
Vol purg	4	4.25	4.5

1513 Begin purge on MWC-3C

1520 Begin purge on MM-02

MM-02

Time	1544	1549	1554
Temp	20.5	20.7	20.7
pH	6.30	6.29	6.29
sp Cond	0.498	0.497	0.497
Turb	1.0	1.00	1.0
Depth	11.05	11.08	11.10
Vol purge	2.5	3	3.5

1600 Collect MM-02

1620 MWC-3B begin purge

Location _____ Date 12/5/16

Project / Client Annual #11

MWC-3C

Time	1640	1645	1650
Temp	18.8	18.7	18.8
pH	6.52	6.51	6.51
sp Cond	0.63	0.62	0.63
Turb	0.21	0	0
Depth	11.47	11.47	11.47
Vol purg	8.5	8.75	9

1655 Collect MWC-3C

MWC-3B

Time	1714	1719	1724
Temp	19.7	19.9	19.7
pH	6.55	6.58	6.59
sp Cond	0.76	0.76	0.76
Turb	0	0	0
Depth	11.77	11.78	11.78
Vol purg	7	7.25	7.5

1730 Collect MWC-3B

1745 Off-site for the day

Location _____ Date 12/6/16

Project / Client Annual #11 Sampling Event

1000 On-site

Weather: Overcast. Raing. High of 57°

Objective: Collect FID readings and complete well sampling.

1138 Begin purge on MM-03

MM-03

Time	1242	1247	1252
Temp	20.8	20.8	20.8
pH	5.85	5.84	5.84
spCond	0.225	0.227	0.227
Turb	0	0	0
Depth	16.81	16.85	16.84
Vol purg	7	7.5	8

1300 Collect MM-03

1305 Collect MM-03-DUP

1328 Begin purge on MWC-1A

1355 Collect MWC-1A

1417 Begin purge on MWC-1B. Tube set at 53'

1445 Collect MWC-1B

1500 Begin purge on MWC-1C. Tube set @ 74'

1545 Collect MWC-1C

Location _____ Date 12/16/16

Project / Client Annual #11

MWC-1A			
Time	1341	1346	1351
Temp	18.9	18.9	18.9
pH	5.62	5.59	5.57
Sp Cond	0.109	0.107	0.106
Turb	1.81	0.37	0
Depth	13.72	13.73	13.73
Vol purg	2	2.5	3

MWC-1B			
Time	1430	1435	1440
Temp	19.3	19.2	19.2
pH	5.74	5.74	5.74
Sp Cond	0.369	0.368	0.372
Turb	1.19	1.5	1.1
Depth	13.98	13.97	13.97
Vol Purg	2	2.25	2.5

MWC-1C			
Time	1530	1535	1540
Temp	19.4	19.4	19.4
pH	5.99	6.00	6.00
Sp Cond	0.490	0.482	0.493
Turb	0	0	0
Depth	20.13	19.92	19.90
	4	4.5	5

Location _____ Date 12/16/16

Project / Client Annual #11

1511 Collect GWCC-FB
1600 off site
1833 Collect GWCC-EQ

ENCLOSURE 4

GROUNDWATER SAMPLING DATA SHEETS

(18 Pages)

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Date: 12/5/2016 Purge Start Time: 11:00 Time of Sample Collection: 1230

Sample ID/ Well Number: MM-04 Watertight Locking Cap Condition: Good

Wells securely locked? Yes

Total Depth (TD): 43.35 ft below top of casing (TOC)

Length of Screening Interval: _____ ft

Initial Depth to Water (DTW): 18.42 ft below TOC

DTW Prior to Sampling: 18.7 ft below TOC

Depth to Sample Intake (DTI): 19.42 ft below TOC

(should be center of screened interval, if possible)

Method of purging: X Peristaltic Pump

_____ Bladder Pump

_____ Submersible Pump

_____ Bailer

Three Well Volumes: 12.2 Gallons

Total Volume Purged: 14 Gallons

Actual Purge Rate: 0.17 Gallons/min

Well Remarks (Sediment Accumulation, Grout/Concrete Present?) _____

_____

Well Calculations

3 Well Volumes:

TD – DTW = Water Column Length

43.35 - 18.42 = 24.93

Water Column Length * Well Diameter Constant = Well Volume

24.93 * 0.163 = 4.06359

3 * Well Volume = 3 Well Volumes

3 * 4.06359 = 12.19077

PHYSIO-CHEMICAL PARAMETERS DURING PURGING

Measurement Criterion	Initial Reading										Stabilization Criteria
Time	1213	1218	1223								-
Breathing Zone FID Reading	0										
Well head FID Reading	0.61	-	-	-	-	-	-	-	-	-	-
pH	5.96	5.93	5.97								± 0.1
Temperature (°C)	19.6	19.7	19.7								-
Specific Conductivity (mS/cm)	0.096	0.097	0.097								± 5 %
Turbidity (NTU)	2.6	2.53	2.5								< 10
Depth to Water (ft)	18.7	18.7	18.7								-
Each Volume Purged (Gal)	11										-
Total Gallons Purged	11	12	13								-

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Duplicate Sample Collected? Yes (No) (Sample ID of Duplicate): _____

(Sample Time of Duplicate): _____

MS/MSD Sample Collected? (Yes) No

Purged water appearance (Odors, Colors, Sediment): _____

Comments: _____

Sample(s) Collected By: Carter Owens

Analytical method to be written on COC: _____

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Date: 12/5/16 Purge Start Time: 1314 Time of Sample Collection: 1400

Sample ID/ Well Number: MM-01 Watertight Locking Cap Condition: Good

Wells securely locked? yes

Total Depth (TD): 27.53 ft below top of casing (TOC)

Length of Screening Interval: _____ ft

Initial Depth to Water (DTW): 18.35 ft below TOC

DTW Prior to Sampling: 20.43 ft below TOC

Depth to Sample Intake (DTI): ~~19.5~~ 21 ft below TOC

(should be center of screened interval, if possible)

Method of purging: X Peristaltic Pump

_____ Bladder Pump

_____ Submersible Pump

_____ Bailer

Three Well Volumes: 4.5 Gallons

Total Volume Purged: 4.5 Gallons

Actual Purge Rate: 0.10 Gallons/min

Well Remarks (Sediment Accumulation, Grout/Concrete Present?) _____

_____

Well Calculations

3 Well Volumes:

TD – DTW = Water Column Length

27.53 - 18.35 = 9.18

Water Column Length * Well Diameter Constant = Well Volume

9.18 * 0.163 = 1.5

3 * Well Volume = 3 Well Volumes

3 * 1.5 = 4.5

PHYSIO-CHEMICAL PARAMETERS DURING PURGING

Measurement Criterion	Initial Reading										Stabilization Criteria
Time	1348	1353	1358								-
Breathing Zone FID Reading	0										
Well head FID Reading	0	-	-	-	-	-	-	-	-	-	-
pH	5.71	5.71	5.71								± 0.1
Temperature (°C)	19.6	19.6	19.4								-
Specific Conductivity (mS/cm)	1.05	1.05	1.05								± 5 %
Turbidity (NTU)	0	0	0								< 10
Depth to Water (ft)	20.38	20.42	20.43								-
Each Volume Purged (Gal)											-
Total Gallons Purged	4	4.25	4.5								-

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Duplicate Sample Collected? Yes (No) (Sample ID of Duplicate): _____

(Sample Time of Duplicate): _____

MS/MSD Sample Collected? Yes (No)

Purged water appearance (Odors, Colors, Sediment): _____

Comments: _____

Sample(s) Collected By: Carter Owens

Analytical method to be written on COC: _____

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Date: 12/5/16 Purge Start Time: 1520 Time of Sample Collection: 1600

Sample ID/ Well Number: MM-02 Watertight Locking Cap Condition: Good

Wells securely locked? yes

Total Depth (TD): 16.9 ft below top of casing (TOC)

Length of Screening Interval: _____ ft

Initial Depth to Water (DTW): 10.82 ft below TOC

DTW Prior to Sampling: 11.10 ft below TOC

Depth to Sample Intake (DTI): 11.82 ft below TOC

(should be center of screened interval, if possible)

Method of purging: X Peristaltic Pump

_____ Bladder Pump

_____ Submersible Pump

_____ Bailer

Three Well Volumes: 2.97 Gallons

Total Volume Purged: 3.5 Gallons

Actual Purge Rate: 0.088 Gallons/min

Well Remarks (Sediment Accumulation, Grout/Concrete Present?) _____

_____

Well Calculations

3 Well Volumes:

TD – DTW = Water Column Length

16.9 - 10.82 = 6.08

Water Column Length * Well Diameter Constant = Well Volume

6.08 * 0.163 = 0.99

3 * Well Volume = 3 Well Volumes

3 * 0.99 = 2.97

PHYSIO-CHEMICAL PARAMETERS DURING PURGING

Measurement Criterion	Initial Reading										Stabilization Criteria
Time	1544	1549	1554								-
Breathing Zone FID Reading	0										
Well head FID Reading	0	-	-	-	-	-	-	-	-	-	-
pH	6.30	6.29	6.29								± 0.1
Temperature (°C)	20.5	20.7	20.7								-
Specific Conductivity (mS/cm)	0.498	0.497	0.497								± 5 %
Turbidity (NTU)	1.0	1.0	1.0								< 10
Depth to Water (ft)	11.05	11.08	11.10								-
Each Volume Purged (Gal)											-
Total Gallons Purged	2.5	3	3.5								-

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Duplicate Sample Collected? Yes (No) (Sample ID of Duplicate): _____

(Sample Time of Duplicate): _____

MS/MSD Sample Collected? Yes (No)

Purged water appearance (Odors, Colors, Sediment): _____

Comments: _____

Sample(s) Collected By: Carter Owens

Analytical method to be written on COC: _____

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Date: 12/5/16 Purge Start Time: 1513 Time of Sample Collection: 1655

Sample ID/ Well Number: MWC-3C Watertight Locking Cap Condition: Good

Wells securely locked? yes

Total Depth (TD): 29.3 ft below top of casing (TOC)

Length of Screening Interval: _____ ft

Initial Depth to Water (DTW): 11.05 ft below TOC

DTW Prior to Sampling: 11.47 ft below TOC

Depth to Sample Intake (DTI): 12.05 ft below TOC

(should be center of screened interval, if possible)

Method of purging: X Peristaltic Pump

_____ Bladder Pump

_____ Submersible Pump

_____ Bailer

Three Well Volumes: 8.91 Gallons

Total Volume Purged: 9 Gallons

Actual Purge Rate: 0.087 Gallons/min

Well Remarks (Sediment Accumulation, Grout/Concrete Present?) _____

_____

Well Calculations

3 Well Volumes:

TD – DTW = Water Column Length

29.3 - 11.05 = 18.25

Water Column Length * Well Diameter Constant = Well Volume

18.25 * 0.163 = 2.97

3 * Well Volume = 3 Well Volumes

3 * 2.97 = 8.91

PHYSIO-CHEMICAL PARAMETERS DURING PURGING

Measurement Criterion	Initial Reading										Stabilization Criteria
Time	1640	1645	1650								-
Breathing Zone FID Reading	0										
Well head FID Reading	1.8	-	-	-	-	-	-	-	-	-	-
pH	6.52	6.51	6.51								± 0.1
Temperature (°C)	18.8	18.7	18.8								-
Specific Conductivity (mS/cm)	0.63	0.62	0.63								± 5 %
Turbidity (NTU)	0.21	0	0								< 10
Depth to Water (ft)	11.47	11.47	11.47								-
Each Volume Purged (Gal)											-
Total Gallons Purged	8.5	8.75	9								-

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Duplicate Sample Collected? Yes (No) (Sample ID of Duplicate): _____

(Sample Time of Duplicate): _____

MS/MSD Sample Collected? Yes (No)

Purged water appearance (Odors, Colors, Sediment): _____

Comments: _____

Sample(s) Collected By: Carter Owens

Analytical method to be written on COC: _____

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Date: 12/5/16 Purge Start Time: 1620 Time of Sample Collection: 1730

Sample ID/ Well Number: MWC-3B Watertight Locking Cap Condition: Good

Wells securely locked? yes

Total Depth (TD): 24.88 ft below top of casing (TOC)

Length of Screening Interval: _____ ft

Initial Depth to Water (DTW): 11.10 ft below TOC

DTW Prior to Sampling: 11.78 ft below TOC

Depth to Sample Intake (DTI): 12.10 ft below TOC

(should be center of screened interval, if possible)

Method of purging: X Peristaltic Pump

_____ Bladder Pump

_____ Submersible Pump

_____ Bailer

Three Well Volumes: 6.75 Gallons

Total Volume Purged: 7.5 Gallons

Actual Purge Rate: 0.12 Gallons/min

Well Remarks (Sediment Accumulation, Grout/Concrete Present?) _____

_____

Well Calculations

3 Well Volumes:

TD – DTW = Water Column Length

24.88 - 11.10 = 13.78

Water Column Length * Well Diameter Constant = Well Volume

13.78 * 0.163 = 2.25

3 * Well Volume = 3 Well Volumes

3 * 2.25 = 6.75

PHYSIO-CHEMICAL PARAMETERS DURING PURGING

Measurement Criterion	Initial Reading										Stabilization Criteria
Time	1714	1719	1724								-
Breathing Zone FID Reading	0										
Well head FID Reading	0	-	-	-	-	-	-	-	-	-	-
pH	6.55	6.58	6.59								± 0.1
Temperature (°C)	19.7	19.9	19.7								-
Specific Conductivity (mS/cm)	0.76	0.76	0.76								± 5 %
Turbidity (NTU)	0	0	0								< 10
Depth to Water (ft)	11.77	11.78	11.78								-
Each Volume Purged (Gal)											-
Total Gallons Purged	7	7.25	7.5								-

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Duplicate Sample Collected? Yes (No) (Sample ID of Duplicate): _____

(Sample Time of Duplicate): _____

MS/MSD Sample Collected? Yes (No)

Purged water appearance (Odors, Colors, Sediment): _____

Comments: _____

Sample(s) Collected By: Carter Owens

Analytical method to be written on COC: _____

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Date: 12/6/16 Purge Start Time: 1138 Time of Sample Collection: 1300

Sample ID/ Well Number: MW-03 Watertight Locking Cap Condition: Good

Wells securely locked? yes

Total Depth (TD): 30.2 ft below top of casing (TOC)

Length of Screening Interval: _____ ft

Initial Depth to Water (DTW): 15.29 ft below TOC

DTW Prior to Sampling: 16.84 ft below TOC

Depth to Sample Intake (DTI): 17.00 ft below TOC

(should be center of screened interval, if possible)

Method of purging: X Peristaltic Pump

_____ Bladder Pump

_____ Submersible Pump

_____ Bailer

Three Well Volumes: 7.29 Gallons

Total Volume Purged: 8 Gallons

Actual Purge Rate: 0.11 Gallons/min

Well Remarks (Sediment Accumulation, Grout/Concrete Present?) _____

_____

Well Calculations

3 Well Volumes:

TD – DTW = Water Column Length

30.2 - 15.29 = 14.91

Water Column Length * Well Diameter Constant = Well Volume

14.91 * 0.163 = 2.43

3 * Well Volume = 3 Well Volumes

3 * 2.43 = 7.29

PHYSIO-CHEMICAL PARAMETERS DURING PURGING

Measurement Criterion	Initial Reading										Stabilization Criteria
Time	1242	1247	1252								-
Breathing Zone FID Reading	0										
Well head FID Reading	7.96	-	-	-	-	-	-	-	-	-	-
pH	5.85	5.84	5.84								± 0.1
Temperature (°C)	20.8	20.8	20.8								-
Specific Conductivity (mS/cm)	0.225	0.227	0.227								± 5 %
Turbidity (NTU)	0	0	0								< 10
Depth to Water (ft)	16.81	16.85	16.84								-
Each Volume Purged (Gal)											-
Total Gallons Purged	7	7.5	8								-

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Duplicate Sample Collected? (Yes) No (Sample ID of Duplicate): MW-03-DUP

(Sample Time of Duplicate): 1305

MS/MSD Sample Collected? Yes (No)

Purged water appearance (Odors, Colors, Sediment): _____

Comments: _____

Sample(s) Collected By: Carter Owens

Analytical method to be written on COC: _____

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Date: 12/6/16 Purge Start Time: 1328 Time of Sample Collection: 1355

Sample ID/ Well Number: MWC-1A Watertight Locking Cap Condition: Good

Wells securely locked? yes

Total Depth (TD): 18.4 ft below top of casing (TOC)

Length of Screening Interval: _____ ft

Initial Depth to Water (DTW): 13.25 ft below TOC

DTW Prior to Sampling: 13.73 ft below TOC

Depth to Sample Intake (DTI): 14.25 ft below TOC

(should be center of screened interval, if possible)

Method of purging: X Peristaltic Pump

_____ Bladder Pump

_____ Submersible Pump

_____ Bailer

Three Well Volumes: 2.52 Gallons

Total Volume Purged: 3 Gallons

Actual Purge Rate: 0.13 Gallons/min

Well Remarks (Sediment Accumulation, Grout/Concrete Present?) _____

Well Calculations

3 Well Volumes:

TD – DTW = Water Column Length

18.4 - 13.25 = 5.15

Water Column Length * Well Diameter Constant = Well Volume

5.15 * 0.163 = 0.84

3 * Well Volume = 3 Well Volumes

3 * 0.84 = 2.52

PHYSIO-CHEMICAL PARAMETERS DURING PURGING

Measurement Criterion	Initial Reading										Stabilization Criteria
Time	1341	1346	1351								-
Breathing Zone FID Reading	0										
Well head FID Reading	0	-	-	-	-	-	-	-	-	-	-
pH	5.62	5.59	5.57								± 0.1
Temperature (°C)	18.9	18.9	18.9								-
Specific Conductivity (mS/cm)	0.109	0.107	0.106								± 5 %
Turbidity (NTU)	1.81	0.37	0								< 10
Depth to Water (ft)	13.72	13.73	13.73								-
Each Volume Purged (Gal)											-
Total Gallons Purged	2	2.5	3								-

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Duplicate Sample Collected? Yes (No) (Sample ID of Duplicate): _____

(Sample Time of Duplicate): _____

MS/MSD Sample Collected? Yes (No)

Purged water appearance (Odors, Colors, Sediment): _____

Comments: _____

Sample(s) Collected By: Carter Owens

Analytical method to be written on COC: _____

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Date: 12/6/16 Purge Start Time: 1417 Time of Sample Collection: 1445

Sample ID/ Well Number: MWC-1B Watertight Locking Cap Condition: Good

Wells securely locked? yes

Total Depth (TD): 55.68 ft below top of casing (TOC)

Length of Screening Interval: _____ ft

Initial Depth to Water (DTW): 12.91 ft below TOC

DTW Prior to Sampling: 13.97 ft below TOC

Depth to Sample Intake (DTI): 53 ft below TOC

(should be center of screened interval, if possible)

Method of purging: X Peristaltic Pump

_____ Bladder Pump

_____ Submersible Pump

_____ Bailer

Three Well Volumes: 20.91 Gallons

Total Volume Purged: 2.5 Gallons

Actual Purge Rate: 0.11 Gallons/min

Well Remarks (Sediment Accumulation, Grout/Concrete Present?) _____

_____

Well Calculations

3 Well Volumes:

TD – DTW = Water Column Length

55.68 - 12.91 = 42.77

Water Column Length * Well Diameter Constant = Well Volume

42.77 * 0.163 = 6.97

3 * Well Volume = 3 Well Volumes

3 * 6.97 = 20.91

PHYSIO-CHEMICAL PARAMETERS DURING PURGING

Measurement Criterion	Initial Reading										Stabilization Criteria
Time	1430	1435	1440								-
Breathing Zone FID Reading	0										
Well head FID Reading	0	-	-	-	-	-	-	-	-	-	-
pH	5.74	5.74	5.74								± 0.1
Temperature (°C)	19.3	19.2	19.2								-
Specific Conductivity (mS/cm)	0.369	0.368	0.372								± 5 %
Turbidity (NTU)	1.19	1.5	1.1								< 10
Depth to Water (ft)	13.98	13.97	13.97								-
Each Volume Purged (Gal)											-
Total Gallons Purged	2	2.25	2.5								-

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Duplicate Sample Collected? Yes (No) (Sample ID of Duplicate): _____

(Sample Time of Duplicate): _____

MS/MSD Sample Collected? Yes (No)

Purged water appearance (Odors, Colors, Sediment): _____

Comments: _____

Sample(s) Collected By: Carter Owens

Analytical method to be written on COC: _____

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Date: 12/6/16 Purge Start Time: 1500 Time of Sample Collection: 1545

Sample ID/ Well Number: MWC-1C Watertight Locking Cap Condition: Good

Wells securely locked? yes

Total Depth (TD): 76.45 ft below top of casing (TOC)

Length of Screening Interval: _____ ft

Initial Depth to Water (DTW): 12.56 ft below TOC

DTW Prior to Sampling: 19.90 ft below TOC

Depth to Sample Intake (DTI): 74 ft below TOC

(should be center of screened interval, if possible)

Method of purging: X Peristaltic Pump

_____ Bladder Pump

_____ Submersible Pump

_____ Bailer

Three Well Volumes: 31.23 Gallons

Total Volume Purged: 5 Gallons

Actual Purge Rate: 0.125 Gallons/min

Well Remarks (Sediment Accumulation, Grout/Concrete Present?) _____

_____

Well Calculations

3 Well Volumes:

TD – DTW = Water Column Length

76.45 - 12.56 = 63.89

Water Column Length * Well Diameter Constant = Well Volume

63.89 * 0.163 = 10.41

3 * Well Volume = 3 Well Volumes

3 * 10.41 =

31.23

PHYSIO-CHEMICAL PARAMETERS DURING PURGING

Measurement Criterion	Initial Reading										Stabilization Criteria
Time	1530	1535	1540								-
Breathing Zone FID Reading	0										
Well head FID Reading	2.52	-	-	-	-	-	-	-	-	-	-
pH	5.99	6.00	6.00								± 0.1
Temperature (°C)	19.4	19.4	19.4								-
Specific Conductivity (mS/cm)	0.490	0.482	0.493								± 5 %
Turbidity (NTU)	0	0	0								< 10
Depth to Water (ft)	20.13	19.92	19.90								-
Each Volume Purged (Gal)											-
Total Gallons Purged	4	4.5	5								-

GROUNDWATER SAMPLING DATA SHEET
Georgia World Congress Center (GWCC)
11th Annual Sampling Event (December 2016)

Duplicate Sample Collected? Yes (No) (Sample ID of Duplicate): _____

(Sample Time of Duplicate): _____

MS/MSD Sample Collected? Yes (No)

Purged water appearance (Odors, Colors, Sediment): _____

Comments: _____

Sample(s) Collected By: Carter Owens

Analytical method to be written on COC: _____

ENCLOSURE 5

DECEMBER 2016 QUARTERLY INSPECTION PHOTOGRAPHIC LOG

(48 Pages)

OFFICIAL PHOTOGRAPH NO. 1
TETRA TECH

Subject: Granite plaque located on the east, southeast side of the north parking lot perimeter.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Aerial

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 2
TETRA TECH

Subject: Background monitoring well, MM-04.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** West

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 3
TETRA TECH

Subject: Granite plaque on the southeast corner of the property.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** North

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 4
TETRA TECH

Subject: Granite plaque on the south side of the property.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** North

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 5
TETRA TECH

Subject: Eastern portion of the lot looking northeast.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Northeast

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 6
TETRA TECH

Subject: Granite plaque on the northeastern perimeter of the property.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Southwest

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 7
TETRA TECH

Subject: Monitoring well, MM-01.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 8
TETRA TECH

Subject:	Granite plaque on the western perimeter of the property. Vegetation is overgrown.		
Site:	Northside Drive Landfill Site (GWCC – 15) Fulton County Atlanta, Georgia		
Date:	December 27, 2016	**Orientation:**	East
Photographer:	Jason Wilson, PE Tetra Tech		

OFFICIAL PHOTOGRAPH NO. 9
TETRA TECH

Subject: Granite plaque on the southwestern perimeter of lot.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 10
TETRA TECH

Subject: Dewatering well at the northwest perimeter of the property.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Northeast

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 11
TETRA TECH

Subject: Monitoring well, MM-02 at the corner of John Street and Northside Drive.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Northeast

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 12
TETRA TECH

Subject: Monitoring well, MWC-3C at the corner of John Street and Northside Drive.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** North

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 13
TETRA TECH

Subject: Monitoring well, MWC-3B at the corner of John Street and Northside Drive.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** North

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 14
TETRA TECH

Subject: Granite plaque on the northwestern perimeter of the property.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Southeast

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 15
TETRA TECH

Subject: Monitoring well, MM-03.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 16
TETRA TECH

Subject:	Monitoring well, MWC-1A at the corner of John Street and Gray Street.
Site:	Northside Drive Landfill Site (GWCC – 15) Fulton County Atlanta, Georgia
Date:	December 27, 2016 **Orientation:** North
Photographer:	Jason Wilson, PE Tetra Tech

OFFICIAL PHOTOGRAPH NO. 17
TETRA TECH

Subject: Monitoring well, MWC-1B at the corner of John Street and Gray Street.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** North

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 18
TETRA TECH

Subject: Monitoring well, MWC-1C at the corner of John Street and Gray Street.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** North

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 19
TETRA TECH

Subject: Granite plaque on the north perimeter of the property.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** South

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 20
TETRA TECH

Subject: Granite plaque on the northeastern corner of the property.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Aerial

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 21
TETRA TECH

Subject: Concrete median at the intersection of Northside Drive and John Street.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Southeast

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 22
TETRA TECH

Subject: Granite plaque on the eastern perimeter of the property.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Aerial

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 23
TETRA TECH

Subject:	Storm water drains located at the eastern parking lot perimeter. The existing crack was still present, but had not increased in size.		
Site:	Northside Drive Landfill Site (GWCC – 15) Fulton County Atlanta, Georgia		
Date:	December 27, 2016	**Orientation:**	East
Photographer:	Jason Wilson, PE Tetra Tech		

OFFICIAL PHOTOGRAPH NO. 24
TETRA TECH

Subject: Storm water drains located at the northwest parking lot perimeter.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Northwest

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 25
TETRA TECH

Subject: Storm water drain located at the northwest parking lot perimeter.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** North

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 26
TETRA TECH

Subject: Location of storm water drain on the west side of the parking lot perimeter.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Southwest

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 27
TETRA TECH

Subject: A small crack in the asphalt leading to the storm water drains on the eastern side of the parking lot. Storm water flows in this low point of the parking lot, which has caused minor staining. The crack is estimated to be approximately 200 feet long, ¼ inch wide and ¼ inch deep. The existing crack was still present, but had not increased in size.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Northeast

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 28
TETRA TECH

Subject: Example of another crack which runs east to west on the main entrance/exit roadway. Like the previously observed crack, it is no larger than ¼ inch wide and ¼ inch deep. This crack traverses almost the entire length of the entrance/exit roadway. The existing crack was still present, but had not increased in size.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 29
TETRA TECH

Subject: Example of another crack which runs east to west on the entrance way of the parking lot row. Over half of the rows have cracks similar to this one. They occur where the asphalt seams are joined. Like the previously observed crack, it is no larger than ¼ inch wide and ¼ inch deep. The existing crack was still present, but had not increased in size.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 30
TETRA TECH

Subject: Example of another crack, which runs north to south on the western most row of the north parking lot. A standard pen is used to show the approximate width of the crack. The width of this crack is typical of all cracks observed in the asphalt of the north parking lot. The existing crack was still present, but had not increased in size.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Aerial

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 31
TETRA TECH

Subject: Example of another crack which runs east to west. This crack is located on the northern portion of the parking lot and traverses the entire parking lot west of the north/south walkway. Once again, this crack occurs where the asphalt seams are joined. Like the previously observed cracks, it is no larger than ¼ inch wide and ¼ inch deep. The existing crack was still present, but had not increased in size. Note significant trailer storage was observed in this area of the parking lot.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 32
TETRA TECH

Subject: Storm water drainage inlet at the northwest corner of the John Street and Gray Street intersection. The inlet is obstructed with sediment, gravel, trash and debris. The pavement around the inlet is in poor condition. Monitoring wells, MW-1A, MW-1B and MW-1C can be seen in the background.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** West

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 33
TETRA TECH

Subject: Granite plaque on the northern perimeter of the property. This plaque was noted to be missing in previous inspections due to overgrown brush.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Aerial

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 34
TETRA TECH

Subject: Restored asphalt patch for direct push location DP-30, located in the northwest part of the parking lot. Area is partially covered with trailer storage in the area.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** South

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 35
TETRA TECH

Subject: Restored asphalt patch for direct push location DP-31, located in the north part of the parking lot.

.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 36
TETRA TECH

Subject: Restored asphalt patch for direct push location DP-32, located in the northeast part of the parking lot.

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Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 37
TETRA TECH

Subject: Restored asphalt patch for direct push location DP-33, located in the southwest part of the parking lot.

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Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 38
TETRA TECH

Subject: Restored asphalt patch for direct push location DP-34, located in the south part of the parking lot.

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Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 39
TETRA TECH

Subject: Restored asphalt patch for direct push location DP-35, located in the southeast part of the parking lot.

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Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 40
TETRA TECH

Subject: Accumulated sediment and vegetation partially obstructing storm drain at the southwest corner of the John Street and Gray Street intersection.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Southwest

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 41
TETRA TECH

Subject: Repaired rutted vegetation area (approx. 60'x 18" by 6") along John Street. The rut appeared to have been caused by automobile and was noted in the December 2015 and March 2016 inspections. Repair was made between March 23, 2016, and June 29, 2016. The repair appears thorough and vegetation is restored.

.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** West

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 42
TETRA TECH

Subject: Pothole found near manhole in John Street – approx. 10” diameter and 4” deep.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 43
TETRA TECH

Subject: Storm drain on John Street partially obstructed with gravel, sediment, and debris.

.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** West

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 44
TETRA TECH

Subject: Repaired eroded soil in the storm water drainage path along John Street – the same path identified in Photograph 35. As noted in the December 2015 and March 2016 inspections, the storm water appeared to have caused a clear separation and was undercutting the sod. The hole was approximately 16" deep and extended approximately 8 feet. The repaired occurred between March 23, 2016, and June 29, 2016.

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Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** West

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 45
TETRA TECH

Subject: Storm water drain along John Street partially obstructed by gravel, sediment, and vegetation. This drain is located adjacent to the repaired area presented in Photograph 39. Note the depressed concrete on the south and west sides of the metal vault.

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Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** East

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 46
TETRA TECH

Subject: Sewer manhole on the north side of the property at the lower end of the storm water drainage path area identified in Photographs 35 and 39. Erosion around the sewer had been noted as more noticeable and more pronounced in the June 2016 report. Since then, gravel and fill material has been placed in the holes and voids at the manhole.

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** West

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 47
TETRA TECH

Subject: Another eroded soil area on the north side of the property. Eroded area is approximately 6'x6"x14" and just east of the sewer manhole seen in Photograph 41. This void is approximately 18" deep and was noted in September 2016 as having worsened since the March and June 2016 site visits. This area is outside of the CAP but still should be investigated and repaired.

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Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Aerial

Photographer: Jason Wilson, PE
Tetra Tech

OFFICIAL PHOTOGRAPH NO. 48
TETRA TECH

Subject: A small eroded soil area on the north side of the property. Eroded area is approximately 1'x8"x10" and just west of the sewer manhole seen in Photograph 41 and approximately 30' west of the area identified in Photograph No. 47. This area is in alignment with the eroded area identified in Photograph No. 47 and the significant eroded area identified in Photograph 44 noted in December 2015 and March 2016 that has since been filled/repaired with gravel/soil. These compromised areas have been attributed to erosion but may be the result of structural sloughing. This area is outside of the CAP but still should be investigated and repaired. .

Site: Northside Drive Landfill Site (GWCC – 15)
Fulton County
Atlanta, Georgia

Date: December 27, 2016 **Orientation:** Aerial

Photographer: Jason Wilson, PE
Tetra Tech

ENCLOSURE 6

CHAIN OF CUSTODY FORM

(One Page)

CHAIN OF CUSTODY RECORD

GCAL USE ONLY

GCAL ANALYTICAL LABORATORIES, LLC
7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

Report to:
Client: Tetra Tech
Address: 1955 Evergreen Blvd
Duluth, GA 30096
Contact: Chris Jones
Phone: 404-395-5220
E-mail: Chris.Jones@tetratech.com

Bill to:
Client: Tetra Tech
Address: 1955 Evergreen Blvd
Duluth, GA 30096
Contact: Jessica Vickers
Phone: 662-681-5727
E-mail: jessica.vickers@tetratech.com

P.O. Number

Project Name/Number: GWCC

Sampled By: Carter Owens

GCAL use only:
Custody Seal
used ☐ yes ☐ no
intact ☐ yes ☐ no
Temperature °C _____

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Analytical Requests & Method: SVOC / None	PAH / None	TAL Metals / HNO_3	Preservative
W	12/5/16	1230		X	MM-04	15	6	6	3	MS/MSD
W	12/5/16	1400		X	MM-01	3	1	1	1	
W	12/5/16	1600		X	MM-02	3	1	1	1	
W	12/5/16	1655		X	MWC-3C	5	2	2	1	
W	12/5/16	1730		X	MWC-3B	3	1	1	1	
W	12/6/16	1300		X	MM-03	5	2	2	1	
W	12/6/16	1355		X	MWC-1A	3	1	1	1	
W	12/6/16	1445		X	MWC-1B	3	1	1	1	
W	12/6/16	1545		X	MWC-1C	5	2	2	1	
W	12/6/16	1511		X	GWCC-FB	3	1	1	1	
W	12/6/16	1833		X	GWCC-EQ	3	1	1	1	
W	12/6/16	1305		X	MM-03-DUP	5	2	2	1	

Air Bill No:

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☒ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
[signature]	12/7/16	0900	[signature]	12/07/16	9:00
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note:

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

ENCLOSURE 7

DATA VALIDATION REPORTS

(Five Pages)

Site Name: Georgia World Congress Center (GWCC) – 10th Annual Groundwater Sampling Event

Laboratory: Gulf Coast Analytical Laboratories (GCAL), Baton Rouge, Louisiana

Data Reviewer: Jessica Vickers, Tetra Tech, Inc.

Analyses: Polynuclear Aromatic Hydrocarbons (PAHs), Total Target Analyte List (TAL) Metals

Report Date: February 8, 2016

Report Number	Matrix	Sample ID
215122918	Groundwater	MM-01, MM-02, field duplicate pair MM-03/MM-03-DUP, MM-04, MWC-1A, MWC-1B, MWC-1C, MWC-3B, MWC-3C, GWCC-EB, and GWCC-FB

Data validation was performed on the analytical data for ten groundwater and two quality control (QC) samples were collected by Tetra Tech, Inc. (Tetra Tech) from nine monitoring wells at the GWCC site during the 10th annual sampling event conducted on December 22, 2015. The samples were analyzed under report number 215122918 by Gulf Coast Analytical Laboratories, Inc. (GCAL), Baton Rouge, Louisiana. GCAL analyzed all samples for PAHs by SW-846 Method 8270D with selected ion monitoring, and total TAL metals by SW-846 Methods 6020A and 7470A (mercury only).

Data were evaluated in general accordance with the U.S. Environmental Protection Agency National Functional Guidelines (NFGs) for Organic Data Review and Inorganic Data Review. The analytical methods that were used by the laboratory during this project provide guidance on procedures and method acceptance criteria that, in some areas, differ from that given in the NFGs. Where differences exist between the method and the NFGs, the data validator followed the acceptance criteria given in the method. In addition, if the laboratory data package presented laboratory-derived acceptance criteria, these criteria were used to evaluate the data, unless the criteria were considered inadequate. Based on a comment received from Ms. Alexandra Cleary of the Georgia Department of Natural Resources, non-detect results were presented as "<reporting limit" rather than using the "U" qualifier used in the NFG. The qualifier used for this project's data validation is listed below:

J- The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.

GWCC – 10th Annual Groundwater Sampling Event
February 8, 2016

Data evaluation consisted of a cursory review of the data package and focused on the presence of serious analytical problems. The following list details the parameters evaluated in this data validation.

- Data Completeness
- Holding Times and Preservation
- Method Blank Results
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate Recovery *
- Field and Rinsate Blank Results
- Field Duplicate Results
- Laboratory Control Samples

* QC criteria were not met for this evaluated parameter as discussed below.

Matrix Spike/Matrix Spike Duplicate Results

The matrix spike duplicate recoveries for mercury, selenium, and sodium were below the associated QC acceptance criteria. Therefore, these results for sample MM-04 were qualified as estimated with a possible low bias (flagged "J-").

Overall

The overall quality of this data package was acceptable. A few results required qualification as indicated above. The enclosed table summarizes the qualified analytical results (see Attachment 1).

ATTACHMENT 1

QUALIFIED DATA SUMMARY TABLE

(Two Pages)

Table 1
Validated Analytical Results
10th Annual Groundwater Sampling Event - GWCC

Parameter	Sample Identification					
	MM-01	MM-02	MM-03	MM-03-DUP	MM-04	MWC-1A
PAHs (µg/L)						
1-Methylnaphthalene	<1.14	<1.09	1.80	1.89	<1.14	<1.06
2-Methylnaphthalene	<1.14	<1.09	<1.09	<1.09	<1.14	<1.06
Acenaphthene	<1.14	<1.09	<1.09	<1.09	<1.14	<1.06
Acenaphthylene	<1.14	<1.09	<1.09	<1.09	<1.14	<1.06
Anthracene	<0.114	<0.109	<0.109	<0.109	<0.114	<0.106
Benzo(a)anthracene	<0.114	<0.109	<0.109	<0.109	<0.114	<0.106
Benzo(a)pyrene	<0.114	<0.109	<0.109	<0.109	<0.114	<0.106
Benzo(b)fluoranthene	<0.170	<0.163	<0.163	<0.164	<0.170	<0.160
Benzo(k)fluoranthene	<0.284	<0.272	<0.272	<0.273	<0.284	<0.266
Benzo(g,h,i)perylene	<0.114	<0.109	<0.109	<0.109	<0.114	<0.106
Chrysene	<0.114	<0.109	<0.109	<0.109	<0.114	<0.106
Dibenzo(a,h)anthracene	<0.114	<0.109	<0.109	<0.109	<0.114	<0.106
Fluoranthene	<0.284	<0.272	<0.272	<0.273	<0.284	3.22
Fluorene	<0.568	<0.543	<0.543	<0.546	<0.568	<0.532
Indeno(1,2,3-cd)pyrene	<0.284	<0.272	<0.272	<0.273	<0.284	<0.266
Naphthalene	<0.568	<0.543	2.39	2.50	<0.568	<0.532
Phenanthrene	<0.114	0.172	0.250	0.259	0.136	<0.106
Pyrene	<0.284	<0.272	<0.272	<0.273	<0.284	1.74
Metals, Total (mg/L)						
Aluminum	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Antimony	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
Arsenic	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Barium	0.050	0.089	0.14	0.14	0.020	0.061
Beryllium	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Cadmium	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Calcium	37.8	53.6	25.3	25.4	6.13	29.8
Chromium	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Cobalt	<0.010	<0.010	0.020	0.019	<0.010	<0.010
Copper	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Iron	0.47	<0.20	0.22	0.25	<0.20	<0.20
Lead	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Magnesium	2.94	13.6	5.06	5.29	1.39	4.37
Manganese	0.13	0.22	0.48	0.49	<0.015	1.08
Mercury	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020 J-	<0.00020
Molybdenum	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Nickel	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Potassium	8.57	7.86	2.80	2.88	1.47	2.13
Selenium	<0.040	<0.040	<0.040	<0.040	<0.040 J-	<0.040
Silver	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sodium	4.05	26.0	11.2	12.0	9.19 J-	9.29
Thallium	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Vanadium	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Zinc	1.02	<0.020	0.027	0.025	<0.020	<0.020

Notes:

J- = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.

µg/L = Micrograms per liter

mg/L = Milligrams per liter

PAHs = Polycyclic aromatic hydrocarbons

Table 1
Validated Analytical Results
10th Annual Groundwater Sampling Event - GWCC

Parameter	Sample Identification					
	MWC-1B	MWC-1C	MWC-3B	MWC-3C	GWCC-EB	GWCC-FB
PAHs (µg/L)						
1-Methylnaphthalene	5.30	<1.06	<1.11	<1.14	<1.35	<1.39
2-Methylnaphthalene	6.13	<1.06	<1.11	<1.14	<1.35	<1.39
Acenaphthene	<1.06	<1.06	<1.11	<1.14	<1.35	<1.39
Acenaphthylene	<1.06	<1.06	<1.11	<1.14	<1.35	<1.39
Anthracene	<0.106	<0.106	<0.111	0.114	<0.135	<0.139
Benzo(a)anthracene	<0.106	<0.106	<0.111	<0.114	<0.135	<0.139
Benzo(a)pyrene	<0.106	<0.106	<0.111	<0.114	<0.135	<0.139
Benzo(b)fluoranthene	<0.160	<0.160	<0.167	<0.170	<0.203	<0.208
Benzo(k)fluoranthene	<0.266	<0.266	<0.278	<0.284	<0.338	<0.347
Benzo(g,h,i)perylene	<0.106	<0.106	<0.111	<0.114	<0.135	<0.139
Chrysene	<0.106	<0.106	<0.111	<0.114	<0.135	<0.139
Dibenzo(a,h)anthracene	<0.106	<0.106	<0.111	<0.114	<0.135	<0.139
Fluoranthene	<0.266	<0.266	<0.278	<0.284	<0.338	<0.347
Fluorene	<0.532	<0.532	<0.556	<0.568	<0.676	<0.694
Indeno(1,2,3-cd)pyrene	<0.266	<0.266	<0.278	<0.284	<0.338	<0.347
Naphthalene	7.42	<0.532	<0.556	<0.568	<0.676	<0.694
Phenanthrene	0.239	<0.106	0.117	0.421	<0.135	<0.139
Pyrene	<0.266	<0.266	<0.278	<0.284	<0.338	<0.347
Metals, Total (mg/L)						
Aluminum	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Antimony	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
Arsenic	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Barium	0.10	0.097	0.14	0.067	<0.010	<0.010
Beryllium	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Cadmium	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Calcium	47.6	71.2	103	83.6	<0.80	<0.80
Chromium	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Cobalt	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Copper	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Iron	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Lead	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Magnesium	7.56	15.0	31.1	23.9	<0.20	<0.20
Manganese	<0.015	<0.015	3.48	0.88	<0.015	<0.015
Mercury	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Nickel	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Potassium	4.35	6.47	9.14	5.30	<0.50	<0.50
Selenium	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Silver	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sodium	23.6	23.7	32.7	32.1	<1.00	<1.00
Thallium	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Vanadium	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Zinc	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Notes:

J- = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.

µg/L = Micrograms per liter

mg/L = Milligrams per liter

PAHs = Polycyclic aromatic hydrocarbons

ATTACHMENT A

LABORATORY ANALYTICAL RESULTS

(57 Pages)

GCAL
ANALYTICAL LABORATORIES, LLC

NELAP CERTIFICATE NUMBER: 01955
DOD ELAP CERTIFICATE NUMBER: L14-243

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 12/15/2016

GCAL Report 216120902

Project GWCC

Deliver To	***Additional Recipients***
Jessica Vickers Tetra Tech EMI 1955 Evergreen Blvd. Duluth, GA 30096 662-681-5727	Chris Jones, Tetra Tech Tim Ward, Tetratech

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
DL	Diluted analysis – when appended to Client Sample ID
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
P	RPD between primary and confirmation result is greater than 40

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

_____
Authorized Signature
GCAL Report 216120902

Certifications

Certification	Certification Number
DOD ELAP	L14-243
Alabama	01955
Arkansas	12-060-0
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
USDA Soil Permit	P330-10-00117

Case Narrative

Client: Tetra Tech **Report:** 216120902

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

SEMI-VOLATILES MASS SPECTROMETRY

In the EPA 8270C SIM analysis for prep batch 600530, the MS/MSD exhibited recovery failures. The LCS/LCSD recoveries are acceptable.

In the EPA 8270C analysis for prep batch 600535, the MS/MSD exhibited recoveries above the established control limits for Benzaldehyde. However, Benzaldehyde was not detected in the associated samples,therefore the data is reportable. The LCS/LCSD recoveries are above the upper control limits for Benzaldehyde. However, this analyte was not detected in the associated samples,therefore the data is reportable.

METALS

In the EPA 6020A analysis, samples 21612090201 (MM-04), 21612090202 (MM-04-MS), 21612090203 (MM-04-MSD), 21612090204 (MM-01), 21612090205 (MM-02), 21612090206 (MWC-3C), 21612090207 (MWC-3B), 21612090208 (MM-03), 21612090209 (MWC-1A), 21612090210 (MWC-1B), 21612090211 (MWC-1C) and 21612090214 (MM-03-DUP) had to be diluted in order to bracket the concentration of target analyte(s) within the calibration range of the instrument.

MISCELLANEOUS

N-nitrosodiphenylamine decomposes in the GC inlet and cannot be separated from Diphenylamine. The laboratory uses N-nitrosodiphenylamine as the calibration and QC standard.

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21612090201	MM-04	Water	12/05/2016 12:30	12/08/2016 10:03
21612090202	MM-04-MS	Water	12/05/2016 12:30	12/08/2016 10:03
21612090203	MM-04-MSD	Water	12/05/2016 12:30	12/08/2016 10:03
21612090204	MM-01	Water	12/05/2016 14:00	12/08/2016 10:03
21612090205	MM-02	Water	12/05/2016 16:00	12/08/2016 10:03
21612090206	MWC-3C	Water	12/05/2016 16:55	12/08/2016 10:03
21612090207	MWC-3B	Water	12/05/2016 17:30	12/08/2016 10:03
21612090208	MM-03	Water	12/05/2016 13:00	12/08/2016 10:03
21612090209	MWC-1A	Water	12/05/2016 13:55	12/08/2016 10:03
21612090210	MWC-1B	Water	12/05/2016 14:45	12/08/2016 10:03
21612090211	MWC-1C	Water	12/05/2016 15:45	12/08/2016 10:03
21612090212	GWCC-FB	Water	12/05/2016 15:11	12/08/2016 10:03
21612090213	GWCC-EQ	Water	12/05/2016 18:33	12/08/2016 10:03
21612090214	MM-03-DUP	Water	12/05/2016 13:05	12/08/2016 10:03

Summary of Compounds Detected

MM-04

Collect Date 12/05/2016 12:30 **GCAL ID** 21612090201
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-39-3	Barium	0.019	0.010	mg/L
7440-70-2	Calcium	6.99	0.80	mg/L
7439-95-4	Magnesium	1.49	0.20	mg/L
7440-09-7	Potassium	1.71	0.50	mg/L
7440-23-5	Sodium	10.4	1.00	mg/L

MM-04-MS

Collect Date 12/05/2016 12:30 **GCAL ID** 21612090202
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 8270C

CAS#	Parameter	Result	LOQ	Units
95-95-4	2,4,5-Trichlorophenol	46.9	10.6	ug/L
88-06-2	2,4,6-Trichlorophenol	51.0	10.6	ug/L
120-83-2	2,4-Dichlorophenol	43.9	10.6	ug/L
105-67-9	2,4-Dimethylphenol	39.6	10.6	ug/L
51-28-5	2,4-Dinitrophenol	36.4	10.6	ug/L
121-14-2	2,4-Dinitrotoluene	48.0	10.6	ug/L
606-20-2	2,6-Dinitrotoluene	46.3	10.6	ug/L
91-58-7	2-Chloronaphthalene	42.8	10.6	ug/L
95-57-8	2-Chlorophenol	40.7	10.6	ug/L
88-74-4	2-Nitroaniline	44.6	10.6	ug/L
88-75-5	2-Nitrophenol	43.5	10.6	ug/L
91-94-1	3,3'-Dichlorobenzidine	60.3	10.6	ug/L
99-09-2	3-Nitroaniline	40.3	10.6	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	43.5	10.6	ug/L
101-55-3	4-Bromophenyl phenyl ether	53.4	10.6	ug/L
59-50-7	4-Chloro-3-methylphenol	44.6	10.6	ug/L
106-47-8	4-Chloroaniline	38.1	10.6	ug/L
7005-72-3	4-Chlorophenyl phenyl ether	54.8	10.6	ug/L
100-01-6	4-Nitroaniline	42.0	10.6	ug/L
100-02-7	4-Nitrophenol	22.5	10.6	ug/L
98-86-2	Acetophenone	48.5	10.6	ug/L
100-52-7	Benzaldehyde	90.1	53.2	ug/L
92-52-4	Biphenyl	46.7	10.6	ug/L
111-91-1	Bis(2-Chloroethoxy)methane	52.5	10.6	ug/L
111-44-4	Bis(2-Chloroethyl)ether	44.7	10.6	ug/L
108-60-1	Bis(2-Chloroisopropyl)ether	40.0	10.6	ug/L
117-81-7	Bis(2-Ethylhexyl)phthalate	45.4	10.6	ug/L
85-68-7	Butyl benzyl phthalate	44.7	10.6	ug/L
105-60-2	Caprolactam	19.6	10.6	ug/L
86-74-8	Carbazole	47.6	10.6	ug/L
132-64-9	Dibenzofuran	47.7	10.6	ug/L

Summary of Compounds Detected

MM-04-MS	**Collect Date**	12/05/2016 12:30	**GCAL ID**	21612090202
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

CAS#	Parameter	Result	LOQ	Units
84-66-2	Diethyl phthalate	49.4	10.6	ug/L
131-11-3	Dimethyl phthalate	46.7	10.6	ug/L
84-74-2	Di-n-butyl phthalate	46.2	10.6	ug/L
117-84-0	Di-n-octyl phthalate	47.3	10.6	ug/L
118-74-1	Hexachlorobenzene	53.0	10.6	ug/L
87-68-3	Hexachlorobutadiene	43.1	10.6	ug/L
77-47-4	Hexachlorocyclopentadiene	29.2	10.6	ug/L
78-59-1	Isophorone	41.0	10.6	ug/L
1319-77-3MP	m,p-Cresol	35.3	10.6	ug/L
98-95-3	Nitrobenzene	47.5	10.6	ug/L
621-64-7	n-Nitrosodi-n-propylamine	48.3	10.6	ug/L
86-30-6	n-Nitrosodiphenylamine	50.7	10.6	ug/L
95-48-7	o-Cresol	36.2	10.6	ug/L
87-86-5	Pentachlorophenol	42.9	10.6	ug/L
108-95-2	Phenol	23.4	10.6	ug/L

EPA 8270C SIM

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	4.05	1.04	ug/L
91-57-6	2-Methylnaphthalene	4.89	1.04	ug/L
83-32-9	Acenaphthene	4.51	1.04	ug/L
208-96-8	Acenaphthylene	4.58	1.04	ug/L
120-12-7	Anthracene	4.62	0.104	ug/L
56-55-3	Benzo(a)anthracene	4.47	0.104	ug/L
50-32-8	Benzo(a)pyrene	4.06	0.104	ug/L
205-99-2	Benzo(b)fluoranthene	3.90	0.156	ug/L
191-24-2	Benzo(g,h,i)perylene	2.08	0.260	ug/L
207-08-9	Benzo(k)fluoranthene	3.74	0.104	ug/L
218-01-9	Chrysene	4.42	0.104	ug/L
53-70-3	Dibenz(a,h)anthracene	1.98	0.104	ug/L
206-44-0	Fluoranthene	4.75	0.260	ug/L
86-73-7	Fluorene	4.40	0.521	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	2.43	0.260	ug/L
91-20-3	Naphthalene	4.36	0.521	ug/L
85-01-8	Phenanthrene	4.54	0.104	ug/L
129-00-0	Pyrene	4.56	0.260	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	1.10	0.20	mg/L
7440-36-0	Antimony	0.10	0.060	mg/L
7440-38-2	Arsenic	0.052	0.020	mg/L

Summary of Compounds Detected

MM-04-MS

Collect Date 12/05/2016 12:30 **GCAL ID** 21612090202
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A (Continued)

CAS#	Parameter	Result	LOQ	Units
7440-39-3	Barium	0.069	0.010	mg/L
7440-41-7	Beryllium	0.051	0.0040	mg/L
7440-43-9	Cadmium	0.051	0.0050	mg/L
7440-70-2	Calcium	32.9	0.80	mg/L
7440-47-3	Chromium	0.052	0.010	mg/L
7440-48-4	Cobalt	0.052	0.010	mg/L
7440-50-8	Copper	0.053	0.020	mg/L
7439-89-6	Iron	5.27	0.20	mg/L
7439-92-1	Lead	0.051	0.015	mg/L
7439-95-4	Magnesium	6.56	0.20	mg/L
7439-96-5	Manganese	0.050	0.015	mg/L
7439-98-7	Molybdenum	0.053	0.030	mg/L
7440-02-0	Nickel	0.10	0.040	mg/L
7440-09-7	Potassium	6.84	0.50	mg/L
7440-22-4	Silver	0.052	0.010	mg/L
7440-23-5	Sodium	15.2	10.0	mg/L
7440-28-0	Thallium	0.051	0.020	mg/L
7440-62-2	Vanadium	0.054	0.020	mg/L
7440-66-6	Zinc	1.00	0.020	mg/L

EPA 7470A

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	0.0054	0.00020	mg/L

MM-04-MSD

Collect Date 12/05/2016 12:30 **GCAL ID** 21612090203
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 8270C

CAS#	Parameter	Result	LOQ	Units
95-95-4	2,4,5-Trichlorophenol	42.6	10.5	ug/L
88-06-2	2,4,6-Trichlorophenol	48.5	10.5	ug/L
120-83-2	2,4-Dichlorophenol	45.0	10.5	ug/L
105-67-9	2,4-Dimethylphenol	45.0	10.5	ug/L
51-28-5	2,4-Dinitrophenol	30.7	10.5	ug/L
121-14-2	2,4-Dinitrotoluene	40.1	10.5	ug/L
606-20-2	2,6-Dinitrotoluene	43.6	10.5	ug/L
91-58-7	2-Chloronaphthalene	39.7	10.5	ug/L
95-57-8	2-Chlorophenol	42.8	10.5	ug/L
88-74-4	2-Nitroaniline	42.8	10.5	ug/L
88-75-5	2-Nitrophenol	44.5	10.5	ug/L
91-94-1	3,3'-Dichlorobenzidine	62.9	10.5	ug/L

Summary of Compounds Detected

MM-04-MSD	**Collect Date**	12/05/2016 12:30	**GCAL ID**	21612090203
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

CAS#	Parameter	Result	LOQ	Units
99-09-2	3-Nitroaniline	35.9	10.5	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	44.0	10.5	ug/L
101-55-3	4-Bromophenyl phenyl ether	58.1	10.5	ug/L
59-50-7	4-Chloro-3-methylphenol	43.2	10.5	ug/L
106-47-8	4-Chloroaniline	39.7	10.5	ug/L
7005-72-3	4-Chlorophenyl phenyl ether	48.2	10.5	ug/L
100-01-6	4-Nitroaniline	34.7	10.5	ug/L
100-02-7	4-Nitrophenol	20.4	10.5	ug/L
98-86-2	Acetophenone	48.6	10.5	ug/L
100-52-7	Benzaldehyde	91.6	52.6	ug/L
92-52-4	Biphenyl	42.6	10.5	ug/L
111-91-1	Bis(2-Chloroethoxy)methane	54.3	10.5	ug/L
111-44-4	Bis(2-Chloroethyl)ether	45.7	10.5	ug/L
108-60-1	Bis(2-Chloroisopropyl)ether	39.5	10.5	ug/L
117-81-7	Bis(2-Ethylhexyl)phthalate	41.1	10.5	ug/L
85-68-7	Butyl benzyl phthalate	42.6	10.5	ug/L
105-60-2	Caprolactam	20.7	10.5	ug/L
86-74-8	Carbazole	46.2	10.5	ug/L
132-64-9	Dibenzofuran	40.7	10.5	ug/L
84-66-2	Diethyl phthalate	42.6	10.5	ug/L
131-11-3	Dimethyl phthalate	43.1	10.5	ug/L
84-74-2	Di-n-butyl phthalate	42.6	10.5	ug/L
117-84-0	Di-n-octyl phthalate	43.7	10.5	ug/L
118-74-1	Hexachlorobenzene	54.0	10.5	ug/L
87-68-3	Hexachlorobutadiene	39.1	10.5	ug/L
77-47-4	Hexachlorocyclopentadiene	26.8	10.5	ug/L
78-59-1	Isophorone	42.1	10.5	ug/L
1319-77-3MP	m,p-Cresol	37.2	10.5	ug/L
98-95-3	Nitrobenzene	48.4	10.5	ug/L
621-64-7	n-Nitrosodi-n-propylamine	48.8	10.5	ug/L
86-30-6	n-Nitrosodiphenylamine	56.4	10.5	ug/L
95-48-7	o-Cresol	38.2	10.5	ug/L
87-86-5	Pentachlorophenol	40.7	10.5	ug/L
108-95-2	Phenol	24.3	10.5	ug/L

EPA 8270C SIM

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	4.64	1.11	ug/L
91-57-6	2-Methylnaphthalene	5.60	1.11	ug/L
83-32-9	Acenaphthene	5.29	1.11	ug/L
208-96-8	Acenaphthylene	5.39	1.11	ug/L
120-12-7	Anthracene	5.47	0.111	ug/L
56-55-3	Benzo(a)anthracene	5.32	0.111	ug/L
50-32-8	Benzo(a)pyrene	5.02	0.111	ug/L
205-99-2	Benzo(b)fluoranthene	4.89	0.167	ug/L
191-24-2	Benzo(g,h,i)perylene	2.49	0.278	ug/L

Summary of Compounds Detected

MM-04-MSD	**Collect Date**	12/05/2016 12:30	**GCAL ID**	21612090203
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C SIM (Continued)

CAS#	Parameter	Result	LOQ	Units
207-08-9	Benzo(k)fluoranthene	4.85	0.111	ug/L
218-01-9	Chrysene	5.35	0.111	ug/L
53-70-3	Dibenz(a,h)anthracene	2.24	0.111	ug/L
206-44-0	Fluoranthene	5.61	0.278	ug/L
86-73-7	Fluorene	5.20	0.556	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	3.07	0.278	ug/L
91-20-3	Naphthalene	5.13	0.556	ug/L
85-01-8	Phenanthrene	5.36	0.111	ug/L
129-00-0	Pyrene	5.42	0.278	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	1.11	0.20	mg/L
7440-36-0	Antimony	0.10	0.060	mg/L
7440-38-2	Arsenic	0.051	0.020	mg/L
7440-39-3	Barium	0.069	0.010	mg/L
7440-41-7	Beryllium	0.051	0.0040	mg/L
7440-43-9	Cadmium	0.051	0.0050	mg/L
7440-70-2	Calcium	33.0	0.80	mg/L
7440-47-3	Chromium	0.052	0.010	mg/L
7440-48-4	Cobalt	0.052	0.010	mg/L
7440-50-8	Copper	0.053	0.020	mg/L
7439-89-6	Iron	5.21	0.20	mg/L
7439-92-1	Lead	0.051	0.015	mg/L
7439-95-4	Magnesium	6.56	0.20	mg/L
7439-96-5	Manganese	0.050	0.015	mg/L
7439-98-7	Molybdenum	0.053	0.030	mg/L
7440-02-0	Nickel	0.10	0.040	mg/L
7440-09-7	Potassium	6.86	0.50	mg/L
7440-22-4	Silver	0.052	0.010	mg/L
7440-23-5	Sodium	15.3	10.0	mg/L
7440-28-0	Thallium	0.051	0.020	mg/L
7440-62-2	Vanadium	0.054	0.020	mg/L
7440-66-6	Zinc	1.0	0.020	mg/L

EPA 7470A

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	0.0056	0.00020	mg/L

Summary of Compounds Detected

MM-01

Collect Date 12/05/2016 14:00 **GCAL ID** 21612090204
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-39-3	Barium	0.14	0.010	mg/L
7440-70-2	Calcium	223	8.00	mg/L
7439-89-6	Iron	0.85	0.20	mg/L
7439-95-4	Magnesium	14.1	2.00	mg/L
7439-96-5	Manganese	0.20	0.015	mg/L
7440-09-7	Potassium	12.4	5.00	mg/L
7440-23-5	Sodium	23.8	1.00	mg/L
7440-66-6	Zinc	0.22	0.020	mg/L

MM-02

Collect Date 12/05/2016 16:00 **GCAL ID** 21612090205
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-39-3	Barium	0.10	0.010	mg/L
7440-70-2	Calcium	61.2	8.00	mg/L
7439-95-4	Magnesium	16.3	2.00	mg/L
7439-96-5	Manganese	0.35	0.015	mg/L
7440-09-7	Potassium	8.84	0.50	mg/L
7440-23-5	Sodium	29.3	1.00	mg/L

MWC-3C

Collect Date 12/05/2016 16:55 **GCAL ID** 21612090206
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-39-3	Barium	0.062	0.010	mg/L
7440-70-2	Calcium	82.0	8.00	mg/L
7439-95-4	Magnesium	24.9	2.00	mg/L
7439-96-5	Manganese	0.88	0.15	mg/L
7440-09-7	Potassium	5.50	0.50	mg/L
7440-23-5	Sodium	31.2	1.00	mg/L

Summary of Compounds Detected

MWC-3B

Collect Date 12/05/2016 17:30 **GCAL ID** 21612090207
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-39-3	Barium	0.14	0.010	mg/L
7440-70-2	Calcium	103	8.00	mg/L
7439-95-4	Magnesium	32.4	2.00	mg/L
7439-96-5	Manganese	3.56	0.15	mg/L
7440-09-7	Potassium	9.74	0.50	mg/L
7440-23-5	Sodium	34.0	1.00	mg/L

MM-03

Collect Date 12/05/2016 13:00 **GCAL ID** 21612090208
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 8270C SIM

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	2.21	1.14	ug/L
91-20-3	Naphthalene	2.69	0.568	ug/L
85-01-8	Phenanthrene	0.309	0.114	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-39-3	Barium	0.13	0.010	mg/L
7440-70-2	Calcium	28.4	0.80	mg/L
7439-95-4	Magnesium	5.71	0.20	mg/L
7439-96-5	Manganese	0.22	0.015	mg/L
7440-09-7	Potassium	2.94	0.50	mg/L
7440-23-5	Sodium	12.1	1.00	mg/L

MWC-1A

Collect Date 12/05/2016 13:55 **GCAL ID** 21612090209
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 8270C SIM

CAS#	Parameter	Result	LOQ	Units
206-44-0	Fluoranthene	4.02	0.266	ug/L
129-00-0	Pyrene	2.61	0.266	ug/L

Summary of Compounds Detected

MWC-1A

Collect Date 12/05/2016 13:55 **GCAL ID** 21612090209
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-39-3	Barium	0.075	0.010	mg/L
7440-70-2	Calcium	32.3	0.80	mg/L
7439-95-4	Magnesium	4.73	0.20	mg/L
7439-96-5	Manganese	1.31	0.15	mg/L
7440-09-7	Potassium	2.26	0.50	mg/L
7440-23-5	Sodium	9.94	1.00	mg/L

MWC-1B

Collect Date 12/05/2016 14:45 **GCAL ID** 21612090210
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-39-3	Barium	0.10	0.010	mg/L
7440-70-2	Calcium	46.5	0.80	mg/L
7439-95-4	Magnesium	7.03	0.20	mg/L
7440-09-7	Potassium	4.12	0.50	mg/L
7440-23-5	Sodium	21.9	1.00	mg/L

MWC-1C

Collect Date 12/05/2016 15:45 **GCAL ID** 21612090211
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-39-3	Barium	0.092	0.010	mg/L
7440-70-2	Calcium	68.9	8.00	mg/L
7439-95-4	Magnesium	13.9	2.00	mg/L
7440-09-7	Potassium	6.40	0.50	mg/L
7440-23-5	Sodium	21.3	1.00	mg/L

MM-03-DUP

Collect Date 12/05/2016 13:05 **GCAL ID** 21612090214
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 8270C SIM

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	2.07	1.14	ug/L

Summary of Compounds Detected

MM-03-DUP	**Collect Date**	12/05/2016 13:05	**GCAL ID**	21612090214
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C SIM (Continued)

CAS#	Parameter	Result	LOQ	Units
91-20-3	Naphthalene	2.56	0.568	ug/L
85-01-8	Phenanthrene	0.304	0.114	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-39-3	Barium	0.13	0.010	mg/L
7440-70-2	Calcium	29.2	0.80	mg/L
7439-95-4	Magnesium	5.82	0.20	mg/L
7439-96-5	Manganese	0.21	0.015	mg/L
7440-09-7	Potassium	2.99	0.50	mg/L
7440-23-5	Sodium	12.3	1.00	mg/L

Sample Results

MM-04	**Collect Date**	12/05/2016 12:30	**GCAL ID**	21612090201
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 13:14	DLB	600597

CAS#	Parameter	Result	LOQ	Units
95-95-4	2,4,5-Trichlorophenol	ND	10.5	ug/L
88-06-2	2,4,6-Trichlorophenol	ND	10.5	ug/L
120-83-2	2,4-Dichlorophenol	ND	10.5	ug/L
105-67-9	2,4-Dimethylphenol	ND	10.5	ug/L
51-28-5	2,4-Dinitrophenol	ND	10.5	ug/L
121-14-2	2,4-Dinitrotoluene	ND	10.5	ug/L
606-20-2	2,6-Dinitrotoluene	ND	10.5	ug/L
91-58-7	2-Chloronaphthalene	ND	10.5	ug/L
95-57-8	2-Chlorophenol	ND	10.5	ug/L
88-74-4	2-Nitroaniline	ND	10.5	ug/L
88-75-5	2-Nitrophenol	ND	10.5	ug/L
91-94-1	3,3'-Dichlorobenzidine	ND	10.5	ug/L
99-09-2	3-Nitroaniline	ND	10.5	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	ND	10.5	ug/L
101-55-3	4-Bromophenyl phenyl ether	ND	10.5	ug/L
59-50-7	4-Chloro-3-methylphenol	ND	10.5	ug/L
106-47-8	4-Chloroaniline	ND	10.5	ug/L
7005-72-3	4-Chlorophenyl phenyl ether	ND	10.5	ug/L
100-01-6	4-Nitroaniline	ND	10.5	ug/L
100-02-7	4-Nitrophenol	ND	10.5	ug/L
98-86-2	Acetophenone	ND	10.5	ug/L
1912-24-9	Atrazine (Aatrex)	ND	52.6	ug/L
100-52-7	Benzaldehyde	ND	52.6	ug/L
92-52-4	Biphenyl	ND	10.5	ug/L
111-91-1	Bis(2-Chloroethoxy)methane	ND	10.5	ug/L
111-44-4	Bis(2-Chloroethyl)ether	ND	10.5	ug/L
108-60-1	Bis(2-Chloroisopropyl)ether	ND	10.5	ug/L
117-81-7	Bis(2-Ethylhexyl)phthalate	ND	10.5	ug/L
85-68-7	Butyl benzyl phthalate	ND	10.5	ug/L
105-60-2	Caprolactam	ND	10.5	ug/L
86-74-8	Carbazole	ND	10.5	ug/L
132-64-9	Dibenzofuran	ND	10.5	ug/L
84-66-2	Diethyl phthalate	ND	10.5	ug/L
131-11-3	Dimethyl phthalate	ND	10.5	ug/L
84-74-2	Di-n-butyl phthalate	ND	10.5	ug/L
117-84-0	Di-n-octyl phthalate	ND	10.5	ug/L
118-74-1	Hexachlorobenzene	ND	10.5	ug/L
87-68-3	Hexachlorobutadiene	ND	10.5	ug/L
77-47-4	Hexachlorocyclopentadiene	ND	10.5	ug/L
78-59-1	Isophorone	ND	10.5	ug/L
1319-77-3MP	m,p-Cresol	ND	10.5	ug/L
98-95-3	Nitrobenzene	ND	10.5	ug/L
621-64-7	n-Nitrosodi-n-propylamine	ND	10.5	ug/L
86-30-6	n-Nitrosodiphenylamine	ND	10.5	ug/L
95-48-7	o-Cresol	ND	10.5	ug/L
87-86-5	Pentachlorophenol	ND	10.5	ug/L

Sample Results

MM-04	**Collect Date**	12/05/2016 12:30	**GCAL ID**	21612090201
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 13:14	DLB	600597

CAS#	Parameter	Result	LOQ	Units
108-95-2	Phenol	ND	10.5	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	52.60	40	ug/L	76	44 - 120
321-60-8	2-Fluorobiphenyl	52.60	42.7	ug/L	81	44 - 119
1718-51-0	Terphenyl-d14	52.60	46.6	ug/L	89	50 - 134
4165-62-2	Phenol-d5	105	38.8	ug/L	37	10 - 120
367-12-4	2-Fluorophenol	105	58.9	ug/L	56	19 - 119
118-79-6	2,4,6-Tribromophenol	105	100	ug/L	95	43 - 140

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 14:01	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	ND	1.04	ug/L
91-57-6	2-Methylnaphthalene	ND	1.04	ug/L
83-32-9	Acenaphthene	ND	1.04	ug/L
208-96-8	Acenaphthylene	ND	1.04	ug/L
120-12-7	Anthracene	ND	0.104	ug/L
56-55-3	Benzo(a)anthracene	ND	0.104	ug/L
50-32-8	Benzo(a)pyrene	ND	0.104	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.156	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.260	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.104	ug/L
218-01-9	Chrysene	ND	0.104	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.104	ug/L
206-44-0	Fluoranthene	ND	0.260	ug/L
86-73-7	Fluorene	ND	0.521	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.260	ug/L
91-20-3	Naphthalene	ND	0.521	ug/L
85-01-8	Phenanthrene	ND	0.104	ug/L
129-00-0	Pyrene	ND	0.260	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.21	4.17	ug/L	80	55 - 111
321-60-8	2-Fluorobiphenyl	5.21	4.25	ug/L	82	53 - 106
1718-51-0	Terphenyl-d14	5.21	3.83	ug/L	74	58 - 132

Sample Results

MM-04	**Collect Date**	12/05/2016 12:30	**GCAL ID**	21612090201
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 17:47	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	**Barium**	**0.019**	**0.010**	**mg/L**
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-70-2	**Calcium**	**6.99**	**0.80**	**mg/L**
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	Iron	ND	0.20	mg/L
7439-92-1	Lead	ND	0.015	mg/L
7439-95-4	**Magnesium**	**1.49**	**0.20**	**mg/L**
7439-96-5	Manganese	ND	0.015	mg/L
7439-98-7	Molybdenum	ND	0.030	mg/L
7440-02-0	Nickel	ND	0.040	mg/L
7440-09-7	**Potassium**	**1.71**	**0.50**	**mg/L**
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	Zinc	ND	0.020	mg/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	10	12/14/2016 17:28	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-23-5	**Sodium**	**10.4**	**1.00**	**mg/L**

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:32	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

Sample Results

MM-04-MS	**Collect Date**	12/05/2016 12:30	**GCAL ID**	21612090202
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 13:30	DLB	600597

CAS#	Parameter	Result	LOQ	Units
95-95-4	2,4,5-Trichlorophenol	46.9	10.6	ug/L
88-06-2	2,4,6-Trichlorophenol	51.0	10.6	ug/L
120-83-2	2,4-Dichlorophenol	43.9	10.6	ug/L
105-67-9	2,4-Dimethylphenol	39.6	10.6	ug/L
51-28-5	2,4-Dinitrophenol	36.4	10.6	ug/L
121-14-2	2,4-Dinitrotoluene	48.0	10.6	ug/L
606-20-2	2,6-Dinitrotoluene	46.3	10.6	ug/L
91-58-7	2-Chloronaphthalene	42.8	10.6	ug/L
95-57-8	2-Chlorophenol	40.7	10.6	ug/L
88-74-4	2-Nitroaniline	44.6	10.6	ug/L
88-75-5	2-Nitrophenol	43.5	10.6	ug/L
91-94-1	3,3'-Dichlorobenzidine	60.3	10.6	ug/L
99-09-2	3-Nitroaniline	40.3	10.6	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	43.5	10.6	ug/L
101-55-3	4-Bromophenyl phenyl ether	53.4	10.6	ug/L
59-50-7	4-Chloro-3-methylphenol	44.6	10.6	ug/L
106-47-8	4-Chloroaniline	38.1	10.6	ug/L
7005-72-3	4-Chlorophenyl phenyl ether	54.8	10.6	ug/L
100-01-6	4-Nitroaniline	42.0	10.6	ug/L
100-02-7	4-Nitrophenol	22.5	10.6	ug/L
98-86-2	Acetophenone	48.5	10.6	ug/L
1912-24-9	Atrazine (Aatrex)	ND	53.2	ug/L
100-52-7	Benzaldehyde	90.1	53.2	ug/L
92-52-4	Biphenyl	46.7	10.6	ug/L
111-91-1	Bis(2-Chloroethoxy)methane	52.5	10.6	ug/L
111-44-4	Bis(2-Chloroethyl)ether	44.7	10.6	ug/L
108-60-1	Bis(2-Chloroisopropyl)ether	40.0	10.6	ug/L
117-81-7	Bis(2-Ethylhexyl)phthalate	45.4	10.6	ug/L
85-68-7	Butyl benzyl phthalate	44.7	10.6	ug/L
105-60-2	Caprolactam	19.6	10.6	ug/L
86-74-8	Carbazole	47.6	10.6	ug/L
132-64-9	Dibenzofuran	47.7	10.6	ug/L
84-66-2	Diethyl phthalate	49.4	10.6	ug/L
131-11-3	Dimethyl phthalate	46.7	10.6	ug/L
84-74-2	Di-n-butyl phthalate	46.2	10.6	ug/L
117-84-0	Di-n-octyl phthalate	47.3	10.6	ug/L
118-74-1	Hexachlorobenzene	53.0	10.6	ug/L
87-68-3	Hexachlorobutadiene	43.1	10.6	ug/L
77-47-4	Hexachlorocyclopentadiene	29.2	10.6	ug/L
78-59-1	Isophorone	41.0	10.6	ug/L
1319-77-3MP	m,p-Cresol	35.3	10.6	ug/L
98-95-3	Nitrobenzene	47.5	10.6	ug/L
621-64-7	n-Nitrosodi-n-propylamine	48.3	10.6	ug/L
86-30-6	n-Nitrosodiphenylamine	50.7	10.6	ug/L
95-48-7	o-Cresol	36.2	10.6	ug/L
87-86-5	Pentachlorophenol	42.9	10.6	ug/L

Sample Results

MM-04-MS	**Collect Date**	12/05/2016 12:30	**GCAL ID**	21612090202
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 13:30	DLB	600597

CAS#	Parameter	Result	LOQ	Units
108-95-2	**Phenol**	**23.4**	**10.6**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	53.20	42.6	ug/L	80	44 - 120
321-60-8	2-Fluorobiphenyl	53.20	45.8	ug/L	86	44 - 119
1718-51-0	Terphenyl-d14	53.20	40.1	ug/L	75	50 - 134
4165-62-2	Phenol-d5	106	40	ug/L	38	10 - 120
367-12-4	2-Fluorophenol	106	56.1	ug/L	53	19 - 119
118-79-6	2,4,6-Tribromophenol	106	98.8	ug/L	93	43 - 140

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 14:22	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	**1-Methylnaphthalene**	**4.05**	**1.04**	**ug/L**
91-57-6	**2-Methylnaphthalene**	**4.89**	**1.04**	**ug/L**
83-32-9	**Acenaphthene**	**4.51**	**1.04**	**ug/L**
208-96-8	**Acenaphthylene**	**4.58**	**1.04**	**ug/L**
120-12-7	**Anthracene**	**4.62**	**0.104**	**ug/L**
56-55-3	**Benzo(a)anthracene**	**4.47**	**0.104**	**ug/L**
50-32-8	**Benzo(a)pyrene**	**4.06**	**0.104**	**ug/L**
205-99-2	**Benzo(b)fluoranthene**	**3.90**	**0.156**	**ug/L**
191-24-2	**Benzo(g,h,i)perylene**	**2.08**	**0.260**	**ug/L**
207-08-9	**Benzo(k)fluoranthene**	**3.74**	**0.104**	**ug/L**
218-01-9	**Chrysene**	**4.42**	**0.104**	**ug/L**
53-70-3	**Dibenz(a,h)anthracene**	**1.98**	**0.104**	**ug/L**
206-44-0	**Fluoranthene**	**4.75**	**0.260**	**ug/L**
86-73-7	**Fluorene**	**4.40**	**0.521**	**ug/L**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**2.43**	**0.260**	**ug/L**
91-20-3	**Naphthalene**	**4.36**	**0.521**	**ug/L**
85-01-8	**Phenanthrene**	**4.54**	**0.104**	**ug/L**
129-00-0	**Pyrene**	**4.56**	**0.260**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.21	4.23	ug/L	81	55 - 111
321-60-8	2-Fluorobiphenyl	5.21	4.22	ug/L	81	53 - 106
1718-51-0	Terphenyl-d14	5.21	3.74	ug/L	72	58 - 132

Sample Results

MM-04-MS

Collect Date	12/05/2016 12:30	**GCAL ID**	21612090202
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 17:51	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	1.10	0.20	mg/L
7440-36-0	Antimony	0.10	0.060	mg/L
7440-38-2	Arsenic	0.052	0.020	mg/L
7440-39-3	Barium	0.069	0.010	mg/L
7440-41-7	Beryllium	0.051	0.0040	mg/L
7440-43-9	Cadmium	0.051	0.0050	mg/L
7440-70-2	Calcium	32.9	0.80	mg/L
7440-47-3	Chromium	0.052	0.010	mg/L
7440-48-4	Cobalt	0.052	0.010	mg/L
7440-50-8	Copper	0.053	0.020	mg/L
7439-89-6	Iron	5.27	0.20	mg/L
7439-92-1	Lead	0.051	0.015	mg/L
7439-95-4	Magnesium	6.56	0.20	mg/L
7439-96-5	Manganese	0.050	0.015	mg/L
7439-98-7	Molybdenum	0.053	0.030	mg/L
7440-02-0	Nickel	0.10	0.040	mg/L
7440-09-7	Potassium	6.84	0.50	mg/L
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	0.052	0.010	mg/L
7440-28-0	Thallium	0.051	0.020	mg/L
7440-62-2	Vanadium	0.054	0.020	mg/L
7440-66-6	Zinc	1.00	0.020	mg/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	10	12/14/2016 17:32	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-23-5	Sodium	15.2	10.0	mg/L

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:34	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	0.0054	0.00020	mg/L

Sample Results

MM-04-MSD	**Collect Date**	12/05/2016 12:30	**GCAL ID**	21612090203
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 13:47	DLB	600597

CAS#	Parameter	Result	LOQ	Units
95-95-4	2,4,5-Trichlorophenol	42.6	10.5	ug/L
88-06-2	2,4,6-Trichlorophenol	48.5	10.5	ug/L
120-83-2	2,4-Dichlorophenol	45.0	10.5	ug/L
105-67-9	2,4-Dimethylphenol	45.0	10.5	ug/L
51-28-5	2,4-Dinitrophenol	30.7	10.5	ug/L
121-14-2	2,4-Dinitrotoluene	40.1	10.5	ug/L
606-20-2	2,6-Dinitrotoluene	43.6	10.5	ug/L
91-58-7	2-Chloronaphthalene	39.7	10.5	ug/L
95-57-8	2-Chlorophenol	42.8	10.5	ug/L
88-74-4	2-Nitroaniline	42.8	10.5	ug/L
88-75-5	2-Nitrophenol	44.5	10.5	ug/L
91-94-1	3,3'-Dichlorobenzidine	62.9	10.5	ug/L
99-09-2	3-Nitroaniline	35.9	10.5	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	44.0	10.5	ug/L
101-55-3	4-Bromophenyl phenyl ether	58.1	10.5	ug/L
59-50-7	4-Chloro-3-methylphenol	43.2	10.5	ug/L
106-47-8	4-Chloroaniline	39.7	10.5	ug/L
7005-72-3	4-Chlorophenyl phenyl ether	48.2	10.5	ug/L
100-01-6	4-Nitroaniline	34.7	10.5	ug/L
100-02-7	4-Nitrophenol	20.4	10.5	ug/L
98-86-2	Acetophenone	48.6	10.5	ug/L
1912-24-9	Atrazine (Aatrex)	ND	52.6	ug/L
100-52-7	Benzaldehyde	91.6	52.6	ug/L
92-52-4	Biphenyl	42.6	10.5	ug/L
111-91-1	Bis(2-Chloroethoxy)methane	54.3	10.5	ug/L
111-44-4	Bis(2-Chloroethyl)ether	45.7	10.5	ug/L
108-60-1	Bis(2-Chloroisopropyl)ether	39.5	10.5	ug/L
117-81-7	Bis(2-Ethylhexyl)phthalate	41.1	10.5	ug/L
85-68-7	Butyl benzyl phthalate	42.6	10.5	ug/L
105-60-2	Caprolactam	20.7	10.5	ug/L
86-74-8	Carbazole	46.2	10.5	ug/L
132-64-9	Dibenzofuran	40.7	10.5	ug/L
84-66-2	Diethyl phthalate	42.6	10.5	ug/L
131-11-3	Dimethyl phthalate	43.1	10.5	ug/L
84-74-2	Di-n-butyl phthalate	42.6	10.5	ug/L
117-84-0	Di-n-octyl phthalate	43.7	10.5	ug/L
118-74-1	Hexachlorobenzene	54.0	10.5	ug/L
87-68-3	Hexachlorobutadiene	39.1	10.5	ug/L
77-47-4	Hexachlorocyclopentadiene	26.8	10.5	ug/L
78-59-1	Isophorone	42.1	10.5	ug/L
1319-77-3MP	m,p-Cresol	37.2	10.5	ug/L
98-95-3	Nitrobenzene	48.4	10.5	ug/L
621-64-7	n-Nitrosodi-n-propylamine	48.8	10.5	ug/L
86-30-6	n-Nitrosodiphenylamine	56.4	10.5	ug/L
95-48-7	o-Cresol	38.2	10.5	ug/L
87-86-5	Pentachlorophenol	40.7	10.5	ug/L

Sample Results

MM-04-MSD

Collect Date	12/05/2016 12:30	**GCAL ID**	21612090203
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 13:47	DLB	600597

CAS#	Parameter	Result	LOQ	Units
108-95-2	**Phenol**	**24.3**	**10.5**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	52.60	42.7	ug/L	81	44 - 120
321-60-8	2-Fluorobiphenyl	52.60	41.4	ug/L	79	44 - 119
1718-51-0	Terphenyl-d14	52.60	43.7	ug/L	83	50 - 134
4165-62-2	Phenol-d5	105	39.7	ug/L	38	10 - 120
367-12-4	2-Fluorophenol	105	54.6	ug/L	52	19 - 119
118-79-6	2,4,6-Tribromophenol	105	91.4	ug/L	87	43 - 140

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 14:42	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	**1-Methylnaphthalene**	**4.64**	**1.11**	**ug/L**
91-57-6	**2-Methylnaphthalene**	**5.60**	**1.11**	**ug/L**
83-32-9	**Acenaphthene**	**5.29**	**1.11**	**ug/L**
208-96-8	**Acenaphthylene**	**5.39**	**1.11**	**ug/L**
120-12-7	**Anthracene**	**5.47**	**0.111**	**ug/L**
56-55-3	**Benzo(a)anthracene**	**5.32**	**0.111**	**ug/L**
50-32-8	**Benzo(a)pyrene**	**5.02**	**0.111**	**ug/L**
205-99-2	**Benzo(b)fluoranthene**	**4.89**	**0.167**	**ug/L**
191-24-2	**Benzo(g,h,i)perylene**	**2.49**	**0.278**	**ug/L**
207-08-9	**Benzo(k)fluoranthene**	**4.85**	**0.111**	**ug/L**
218-01-9	**Chrysene**	**5.35**	**0.111**	**ug/L**
53-70-3	**Dibenz(a,h)anthracene**	**2.24**	**0.111**	**ug/L**
206-44-0	**Fluoranthene**	**5.61**	**0.278**	**ug/L**
86-73-7	**Fluorene**	**5.20**	**0.556**	**ug/L**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**3.07**	**0.278**	**ug/L**
91-20-3	**Naphthalene**	**5.13**	**0.556**	**ug/L**
85-01-8	**Phenanthrene**	**5.36**	**0.111**	**ug/L**
129-00-0	**Pyrene**	**5.42**	**0.278**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.56	4.93	ug/L	89	55 - 111
321-60-8	2-Fluorobiphenyl	5.56	4.93	ug/L	89	53 - 106
1718-51-0	Terphenyl-d14	5.56	4.44	ug/L	80	58 - 132

Sample Results

MM-04-MSD

Collect Date	12/05/2016 12:30	**GCAL ID**	21612090203
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 17:55	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	1.11	0.20	mg/L
7440-36-0	Antimony	0.10	0.060	mg/L
7440-38-2	Arsenic	0.051	0.020	mg/L
7440-39-3	Barium	0.069	0.010	mg/L
7440-41-7	Beryllium	0.051	0.0040	mg/L
7440-43-9	Cadmium	0.051	0.0050	mg/L
7440-70-2	Calcium	33.0	0.80	mg/L
7440-47-3	Chromium	0.052	0.010	mg/L
7440-48-4	Cobalt	0.052	0.010	mg/L
7440-50-8	Copper	0.053	0.020	mg/L
7439-89-6	Iron	5.21	0.20	mg/L
7439-92-1	Lead	0.051	0.015	mg/L
7439-95-4	Magnesium	6.56	0.20	mg/L
7439-96-5	Manganese	0.050	0.015	mg/L
7439-98-7	Molybdenum	0.053	0.030	mg/L
7440-02-0	Nickel	0.10	0.040	mg/L
7440-09-7	Potassium	6.86	0.50	mg/L
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	0.052	0.010	mg/L
7440-28-0	Thallium	0.051	0.020	mg/L
7440-62-2	Vanadium	0.054	0.020	mg/L
7440-66-6	Zinc	1.0	0.020	mg/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	10	12/14/2016 17:36	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-23-5	Sodium	15.3	10.0	mg/L

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:36	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	0.0056	0.00020	mg/L

Sample Results

MM-01	**Collect Date**	12/05/2016 14:00	**GCAL ID**	21612090204
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 15:02	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	ND	1.14	ug/L
91-57-6	2-Methylnaphthalene	ND	1.14	ug/L
83-32-9	Acenaphthene	ND	1.14	ug/L
208-96-8	Acenaphthylene	ND	1.14	ug/L
120-12-7	Anthracene	ND	0.114	ug/L
56-55-3	Benzo(a)anthracene	ND	0.114	ug/L
50-32-8	Benzo(a)pyrene	ND	0.114	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.170	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.284	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.114	ug/L
218-01-9	Chrysene	ND	0.114	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.114	ug/L
206-44-0	Fluoranthene	ND	0.284	ug/L
86-73-7	Fluorene	ND	0.568	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.284	ug/L
91-20-3	Naphthalene	ND	0.568	ug/L
85-01-8	Phenanthrene	ND	0.114	ug/L
129-00-0	Pyrene	ND	0.284	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.68	4.91	ug/L	86	55 - 111
321-60-8	2-Fluorobiphenyl	5.68	4.89	ug/L	86	53 - 106
1718-51-0	Terphenyl-d14	5.68	4.06	ug/L	71	58 - 132

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 18:10	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	**Barium**	**0.14**	**0.010**	**mg/L**
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	**Iron**	**0.85**	**0.20**	**mg/L**
7439-92-1	Lead	ND	0.015	mg/L
7439-96-5	**Manganese**	**0.20**	**0.015**	**mg/L**
7439-98-7	Molybdenum	ND	0.030	mg/L

Sample Results

MM-01

Collect Date 12/05/2016 14:00 **GCAL ID** 21612090204
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 18:10	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-02-0	Nickel	ND	0.040	mg/L
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	**Zinc**	**0.22**	**0.020**	**mg/L**

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	10	12/14/2016 18:06	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-70-2	**Calcium**	**223**	**8.00**	**mg/L**
7439-95-4	**Magnesium**	**14.1**	**2.00**	**mg/L**
7440-09-7	**Potassium**	**12.4**	**5.00**	**mg/L**
7440-23-5	**Sodium**	**23.8**	**1.00**	**mg/L**

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:38	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

MM-02

Collect Date 12/05/2016 16:00 **GCAL ID** 21612090205
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 15:22	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	ND	1.06	ug/L
91-57-6	2-Methylnaphthalene	ND	1.06	ug/L

Sample Results

MM-02

Collect Date	12/05/2016 16:00	**GCAL ID**	21612090205
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C SIM (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 15:22	SMH	600776

CAS#	Parameter	Result	LOQ	Units
83-32-9	Acenaphthene	ND	1.06	ug/L
208-96-8	Acenaphthylene	ND	1.06	ug/L
120-12-7	Anthracene	ND	0.106	ug/L
56-55-3	Benzo(a)anthracene	ND	0.106	ug/L
50-32-8	Benzo(a)pyrene	ND	0.106	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.160	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.266	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.106	ug/L
218-01-9	Chrysene	ND	0.106	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.106	ug/L
206-44-0	Fluoranthene	ND	0.266	ug/L
86-73-7	Fluorene	ND	0.532	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.266	ug/L
91-20-3	Naphthalene	ND	0.532	ug/L
85-01-8	Phenanthrene	ND	0.106	ug/L
129-00-0	Pyrene	ND	0.266	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.32	4.56	ug/L	86	55 - 111
321-60-8	2-Fluorobiphenyl	5.32	4.48	ug/L	84	53 - 106
1718-51-0	Terphenyl-d14	5.32	3.85	ug/L	72	58 - 132

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 18:18	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	**Barium**	**0.10**	**0.010**	**mg/L**
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	Iron	ND	0.20	mg/L
7439-92-1	Lead	ND	0.015	mg/L
7439-96-5	**Manganese**	**0.35**	**0.015**	**mg/L**
7439-98-7	Molybdenum	ND	0.030	mg/L
7440-02-0	Nickel	ND	0.040	mg/L
7440-09-7	**Potassium**	**8.84**	**0.50**	**mg/L**

Sample Results

MM-02

Collect Date	12/05/2016 16:00	**GCAL ID**	21612090205
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 6020A (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 18:18	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	Zinc	ND	0.020	mg/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	10	12/14/2016 18:14	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-70-2	**Calcium**	**61.2**	**8.00**	**mg/L**
7439-95-4	**Magnesium**	**16.3**	**2.00**	**mg/L**
7440-23-5	**Sodium**	**29.3**	**1.00**	**mg/L**

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:40	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

MWC-3C

Collect Date	12/05/2016 16:55	**GCAL ID**	21612090206
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 14:03	DLB	600597

CAS#	Parameter	Result	LOQ	Units
95-95-4	2,4,5-Trichlorophenol	ND	10.9	ug/L
88-06-2	2,4,6-Trichlorophenol	ND	10.9	ug/L
120-83-2	2,4-Dichlorophenol	ND	10.9	ug/L
105-67-9	2,4-Dimethylphenol	ND	10.9	ug/L

Sample Results

MWC-3C	**Collect Date**	12/05/2016 16:55	**GCAL ID**	21612090206
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 14:03	DLB	600597

CAS#	Parameter	Result	LOQ	Units
51-28-5	2,4-Dinitrophenol	ND	10.9	ug/L
121-14-2	2,4-Dinitrotoluene	ND	10.9	ug/L
606-20-2	2,6-Dinitrotoluene	ND	10.9	ug/L
91-58-7	2-Chloronaphthalene	ND	10.9	ug/L
95-57-8	2-Chlorophenol	ND	10.9	ug/L
88-74-4	2-Nitroaniline	ND	10.9	ug/L
88-75-5	2-Nitrophenol	ND	10.9	ug/L
91-94-1	3,3'-Dichlorobenzidine	ND	10.9	ug/L
99-09-2	3-Nitroaniline	ND	10.9	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	ND	10.9	ug/L
101-55-3	4-Bromophenyl phenyl ether	ND	10.9	ug/L
59-50-7	4-Chloro-3-methylphenol	ND	10.9	ug/L
106-47-8	4-Chloroaniline	ND	10.9	ug/L
7005-72-3	4-Chlorophenyl phenyl ether	ND	10.9	ug/L
100-01-6	4-Nitroaniline	ND	10.9	ug/L
100-02-7	4-Nitrophenol	ND	10.9	ug/L
98-86-2	Acetophenone	ND	10.9	ug/L
1912-24-9	Atrazine (Aatrex)	ND	54.3	ug/L
100-52-7	Benzaldehyde	ND	54.3	ug/L
92-52-4	Biphenyl	ND	10.9	ug/L
111-91-1	Bis(2-Chloroethoxy)methane	ND	10.9	ug/L
111-44-4	Bis(2-Chloroethyl)ether	ND	10.9	ug/L
108-60-1	Bis(2-Chloroisopropyl)ether	ND	10.9	ug/L
117-81-7	Bis(2-Ethylhexyl)phthalate	ND	10.9	ug/L
85-68-7	Butyl benzyl phthalate	ND	10.9	ug/L
105-60-2	Caprolactam	ND	10.9	ug/L
86-74-8	Carbazole	ND	10.9	ug/L
132-64-9	Dibenzofuran	ND	10.9	ug/L
84-66-2	Diethyl phthalate	ND	10.9	ug/L
131-11-3	Dimethyl phthalate	ND	10.9	ug/L
84-74-2	Di-n-butyl phthalate	ND	10.9	ug/L
117-84-0	Di-n-octyl phthalate	ND	10.9	ug/L
118-74-1	Hexachlorobenzene	ND	10.9	ug/L
87-68-3	Hexachlorobutadiene	ND	10.9	ug/L
77-47-4	Hexachlorocyclopentadiene	ND	10.9	ug/L
78-59-1	Isophorone	ND	10.9	ug/L
1319-77-3MP	m,p-Cresol	ND	10.9	ug/L
98-95-3	Nitrobenzene	ND	10.9	ug/L
621-64-7	n-Nitrosodi-n-propylamine	ND	10.9	ug/L
86-30-6	n-Nitrosodiphenylamine	ND	10.9	ug/L
95-48-7	o-Cresol	ND	10.9	ug/L
87-86-5	Pentachlorophenol	ND	10.9	ug/L

Sample Results

MWC-3C	**Collect Date**	12/05/2016 16:55	**GCAL ID**	21612090206
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 14:03	DLB	600597

CAS#	Parameter	Result	LOQ	Units
108-95-2	Phenol	ND	10.9	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	54.30	39.3	ug/L	72	44 - 120
321-60-8	2-Fluorobiphenyl	54.30	39.7	ug/L	73	44 - 119
1718-51-0	Terphenyl-d14	54.30	43.9	ug/L	81	50 - 134
4165-62-2	Phenol-d5	109	38.4	ug/L	35	10 - 120
367-12-4	2-Fluorophenol	109	60.9	ug/L	56	19 - 119
118-79-6	2,4,6-Tribromophenol	109	102	ug/L	94	43 - 140

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 15:43	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	ND	1.14	ug/L
91-57-6	2-Methylnaphthalene	ND	1.14	ug/L
83-32-9	Acenaphthene	ND	1.14	ug/L
208-96-8	Acenaphthylene	ND	1.14	ug/L
120-12-7	Anthracene	ND	0.114	ug/L
56-55-3	Benzo(a)anthracene	ND	0.114	ug/L
50-32-8	Benzo(a)pyrene	ND	0.114	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.170	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.284	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.114	ug/L
218-01-9	Chrysene	ND	0.114	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.114	ug/L
206-44-0	Fluoranthene	ND	0.284	ug/L
86-73-7	Fluorene	ND	0.568	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.284	ug/L
91-20-3	Naphthalene	ND	0.568	ug/L
85-01-8	Phenanthrene	ND	0.114	ug/L
129-00-0	Pyrene	ND	0.284	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.68	4.54	ug/L	80	55 - 111
321-60-8	2-Fluorobiphenyl	5.68	4.5	ug/L	79	53 - 106
1718-51-0	Terphenyl-d14	5.68	3.9	ug/L	69	58 - 132

Sample Results

MWC-3C

Collect Date	12/05/2016 16:55	**GCAL ID**	21612090206
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 18:37	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	**Barium**	**0.062**	**0.010**	**mg/L**
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	Iron	ND	0.20	mg/L
7439-92-1	Lead	ND	0.015	mg/L
7439-98-7	Molybdenum	ND	0.030	mg/L
7440-02-0	Nickel	ND	0.040	mg/L
7440-09-7	**Potassium**	**5.50**	**0.50**	**mg/L**
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	Zinc	ND	0.020	mg/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	10	12/14/2016 18:33	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-70-2	**Calcium**	**82.0**	**8.00**	**mg/L**
7439-95-4	**Magnesium**	**24.9**	**2.00**	**mg/L**
7439-96-5	**Manganese**	**0.88**	**0.15**	**mg/L**
7440-23-5	**Sodium**	**31.2**	**1.00**	**mg/L**

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:42	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

Sample Results

MWC-3B	**Collect Date**	12/05/2016 17:30	**GCAL ID**	21612090207
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 16:03	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	ND	1.04	ug/L
91-57-6	2-Methylnaphthalene	ND	1.04	ug/L
83-32-9	Acenaphthene	ND	1.04	ug/L
208-96-8	Acenaphthylene	ND	1.04	ug/L
120-12-7	Anthracene	ND	0.104	ug/L
56-55-3	Benzo(a)anthracene	ND	0.104	ug/L
50-32-8	Benzo(a)pyrene	ND	0.104	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.156	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.260	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.104	ug/L
218-01-9	Chrysene	ND	0.104	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.104	ug/L
206-44-0	Fluoranthene	ND	0.260	ug/L
86-73-7	Fluorene	ND	0.521	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.260	ug/L
91-20-3	Naphthalene	ND	0.521	ug/L
85-01-8	Phenanthrene	ND	0.104	ug/L
129-00-0	Pyrene	ND	0.260	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.21	4.2	ug/L	81	55 - 111
321-60-8	2-Fluorobiphenyl	5.21	4.28	ug/L	82	53 - 106
1718-51-0	Terphenyl-d14	5.21	3.73	ug/L	72	58 - 132

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 18:44	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	**Barium**	**0.14**	**0.010**	**mg/L**
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	Iron	ND	0.20	mg/L
7439-92-1	Lead	ND	0.015	mg/L
7439-98-7	Molybdenum	ND	0.030	mg/L
7440-02-0	Nickel	ND	0.040	mg/L

Sample Results

MWC-3B

Collect Date 12/05/2016 17:30 **GCAL ID** 21612090207
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 18:44	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-09-7	**Potassium**	**9.74**	**0.50**	**mg/L**
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	Zinc	ND	0.020	mg/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	10	12/14/2016 18:41	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-70-2	**Calcium**	**103**	**8.00**	**mg/L**
7439-95-4	**Magnesium**	**32.4**	**2.00**	**mg/L**
7439-96-5	**Manganese**	**3.56**	**0.15**	**mg/L**
7440-23-5	**Sodium**	**34.0**	**1.00**	**mg/L**

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:44	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

MM-03

Collect Date 12/05/2016 13:00 **GCAL ID** 21612090208
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 8270C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 14:20	DLB	600597

CAS#	Parameter	Result	LOQ	Units
95-95-4	2,4,5-Trichlorophenol	ND	10.6	ug/L
88-06-2	2,4,6-Trichlorophenol	ND	10.6	ug/L

Sample Results

MM-03	**Collect Date**	12/05/2016 13:00	**GCAL ID**	21612090208
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 14:20	DLB	600597

CAS#	Parameter	Result	LOQ	Units
120-83-2	2,4-Dichlorophenol	ND	10.6	ug/L
105-67-9	2,4-Dimethylphenol	ND	10.6	ug/L
51-28-5	2,4-Dinitrophenol	ND	10.6	ug/L
121-14-2	2,4-Dinitrotoluene	ND	10.6	ug/L
606-20-2	2,6-Dinitrotoluene	ND	10.6	ug/L
91-58-7	2-Chloronaphthalene	ND	10.6	ug/L
95-57-8	2-Chlorophenol	ND	10.6	ug/L
88-74-4	2-Nitroaniline	ND	10.6	ug/L
88-75-5	2-Nitrophenol	ND	10.6	ug/L
91-94-1	3,3'-Dichlorobenzidine	ND	10.6	ug/L
99-09-2	3-Nitroaniline	ND	10.6	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	ND	10.6	ug/L
101-55-3	4-Bromophenyl phenyl ether	ND	10.6	ug/L
59-50-7	4-Chloro-3-methylphenol	ND	10.6	ug/L
106-47-8	4-Chloroaniline	ND	10.6	ug/L
7005-72-3	4-Chlorophenyl phenyl ether	ND	10.6	ug/L
100-01-6	4-Nitroaniline	ND	10.6	ug/L
100-02-7	4-Nitrophenol	ND	10.6	ug/L
98-86-2	Acetophenone	ND	10.6	ug/L
1912-24-9	Atrazine (Aatrex)	ND	53.2	ug/L
100-52-7	Benzaldehyde	ND	53.2	ug/L
92-52-4	Biphenyl	ND	10.6	ug/L
111-91-1	Bis(2-Chloroethoxy)methane	ND	10.6	ug/L
111-44-4	Bis(2-Chloroethyl)ether	ND	10.6	ug/L
108-60-1	Bis(2-Chloroisopropyl)ether	ND	10.6	ug/L
117-81-7	Bis(2-Ethylhexyl)phthalate	ND	10.6	ug/L
85-68-7	Butyl benzyl phthalate	ND	10.6	ug/L
105-60-2	Caprolactam	ND	10.6	ug/L
86-74-8	Carbazole	ND	10.6	ug/L
132-64-9	Dibenzofuran	ND	10.6	ug/L
84-66-2	Diethyl phthalate	ND	10.6	ug/L
131-11-3	Dimethyl phthalate	ND	10.6	ug/L
84-74-2	Di-n-butyl phthalate	ND	10.6	ug/L
117-84-0	Di-n-octyl phthalate	ND	10.6	ug/L
118-74-1	Hexachlorobenzene	ND	10.6	ug/L
87-68-3	Hexachlorobutadiene	ND	10.6	ug/L
77-47-4	Hexachlorocyclopentadiene	ND	10.6	ug/L
78-59-1	Isophorone	ND	10.6	ug/L
1319-77-3MP	m,p-Cresol	ND	10.6	ug/L
98-95-3	Nitrobenzene	ND	10.6	ug/L
621-64-7	n-Nitrosodi-n-propylamine	ND	10.6	ug/L
86-30-6	n-Nitrosodiphenylamine	ND	10.6	ug/L
95-48-7	o-Cresol	ND	10.6	ug/L
87-86-5	Pentachlorophenol	ND	10.6	ug/L

Sample Results

MM-03	**Collect Date**	12/05/2016 13:00	**GCAL ID**	21612090208
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 14:20	DLB	600597

CAS#	Parameter	Result	LOQ	Units
108-95-2	Phenol	ND	10.6	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	53.20	39	ug/L	73	44 - 120
321-60-8	2-Fluorobiphenyl	53.20	39.8	ug/L	75	44 - 119
1718-51-0	Terphenyl-d14	53.20	41.8	ug/L	79	50 - 134
4165-62-2	Phenol-d5	106	35.7	ug/L	34	10 - 120
367-12-4	2-Fluorophenol	106	57.6	ug/L	54	19 - 119
118-79-6	2,4,6-Tribromophenol	106	104	ug/L	98	43 - 140

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 16:24	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	**1-Methylnaphthalene**	**2.21**	**1.14**	**ug/L**
91-57-6	2-Methylnaphthalene	ND	1.14	ug/L
83-32-9	Acenaphthene	ND	1.14	ug/L
208-96-8	Acenaphthylene	ND	1.14	ug/L
120-12-7	Anthracene	ND	0.114	ug/L
56-55-3	Benzo(a)anthracene	ND	0.114	ug/L
50-32-8	Benzo(a)pyrene	ND	0.114	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.170	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.284	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.114	ug/L
218-01-9	Chrysene	ND	0.114	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.114	ug/L
206-44-0	Fluoranthene	ND	0.284	ug/L
86-73-7	Fluorene	ND	0.568	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.284	ug/L
91-20-3	**Naphthalene**	**2.69**	**0.568**	**ug/L**
85-01-8	**Phenanthrene**	**0.309**	**0.114**	**ug/L**
129-00-0	Pyrene	ND	0.284	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.68	4.81	ug/L	85	55 - 111
321-60-8	2-Fluorobiphenyl	5.68	4.74	ug/L	83	53 - 106
1718-51-0	Terphenyl-d14	5.68	4.1	ug/L	72	58 - 132

Sample Results

MM-03	**Collect Date**	12/05/2016 13:00	**GCAL ID**	21612090208
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 18:52	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	**Barium**	**0.13**	**0.010**	**mg/L**
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-70-2	**Calcium**	**28.4**	**0.80**	**mg/L**
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	Iron	ND	0.20	mg/L
7439-92-1	Lead	ND	0.015	mg/L
7439-95-4	**Magnesium**	**5.71**	**0.20**	**mg/L**
7439-96-5	**Manganese**	**0.22**	**0.015**	**mg/L**
7439-98-7	Molybdenum	ND	0.030	mg/L
7440-02-0	Nickel	ND	0.040	mg/L
7440-09-7	**Potassium**	**2.94**	**0.50**	**mg/L**
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	Zinc	ND	0.020	mg/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	10	12/14/2016 18:48	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-23-5	**Sodium**	**12.1**	**1.00**	**mg/L**

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:46	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

Sample Results

MWC-1A	**Collect Date**	12/05/2016 13:55	**GCAL ID**	21612090209
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 16:44	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	ND	1.06	ug/L
91-57-6	2-Methylnaphthalene	ND	1.06	ug/L
83-32-9	Acenaphthene	ND	1.06	ug/L
208-96-8	Acenaphthylene	ND	1.06	ug/L
120-12-7	Anthracene	ND	0.106	ug/L
56-55-3	Benzo(a)anthracene	ND	0.106	ug/L
50-32-8	Benzo(a)pyrene	ND	0.106	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.160	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.266	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.106	ug/L
218-01-9	Chrysene	ND	0.106	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.106	ug/L
206-44-0	**Fluoranthene**	**4.02**	**0.266**	**ug/L**
86-73-7	Fluorene	ND	0.532	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.266	ug/L
91-20-3	Naphthalene	ND	0.532	ug/L
85-01-8	Phenanthrene	ND	0.106	ug/L
129-00-0	**Pyrene**	**2.61**	**0.266**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.32	4.35	ug/L	82	55 - 111
321-60-8	2-Fluorobiphenyl	5.32	4.47	ug/L	84	53 - 106
1718-51-0	Terphenyl-d14	5.32	3.99	ug/L	75	58 - 132

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 19:00	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	**Barium**	**0.075**	**0.010**	**mg/L**
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-70-2	**Calcium**	**32.3**	**0.80**	**mg/L**
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	Iron	ND	0.20	mg/L
7439-92-1	Lead	ND	0.015	mg/L
7439-95-4	**Magnesium**	**4.73**	**0.20**	**mg/L**

Sample Results

MWC-1A

Collect Date 12/05/2016 13:55 **GCAL ID** 21612090209
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 19:00	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7439-98-7	Molybdenum	ND	0.030	mg/L
7440-02-0	Nickel	ND	0.040	mg/L
7440-09-7	**Potassium**	**2.26**	**0.50**	**mg/L**
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	Zinc	ND	0.020	mg/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	10	12/14/2016 18:56	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**1.31**	**0.15**	**mg/L**
7440-23-5	**Sodium**	**9.94**	**1.00**	**mg/L**

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:48	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

MWC-1B

Collect Date 12/05/2016 14:45 **GCAL ID** 21612090210
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 17:05	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	ND	1.16	ug/L
91-57-6	2-Methylnaphthalene	ND	1.16	ug/L

Sample Results

MWC-1B

Collect Date	12/05/2016 14:45	**GCAL ID**	21612090210
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C SIM (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 17:05	SMH	600776

CAS#	Parameter	Result	LOQ	Units
83-32-9	Acenaphthene	ND	1.16	ug/L
208-96-8	Acenaphthylene	ND	1.16	ug/L
120-12-7	Anthracene	ND	0.116	ug/L
56-55-3	Benzo(a)anthracene	ND	0.116	ug/L
50-32-8	Benzo(a)pyrene	ND	0.116	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.174	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.291	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.116	ug/L
218-01-9	Chrysene	ND	0.116	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.116	ug/L
206-44-0	Fluoranthene	ND	0.291	ug/L
86-73-7	Fluorene	ND	0.581	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.291	ug/L
91-20-3	Naphthalene	ND	0.581	ug/L
85-01-8	Phenanthrene	ND	0.116	ug/L
129-00-0	Pyrene	ND	0.291	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.81	4.75	ug/L	82	55 - 111
321-60-8	2-Fluorobiphenyl	5.81	4.88	ug/L	84	53 - 106
1718-51-0	Terphenyl-d14	5.81	4.19	ug/L	72	58 - 132

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 19:07	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	**Barium**	**0.10**	**0.010**	**mg/L**
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-70-2	**Calcium**	**46.5**	**0.80**	**mg/L**
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	Iron	ND	0.20	mg/L
7439-92-1	Lead	ND	0.015	mg/L
7439-95-4	**Magnesium**	**7.03**	**0.20**	**mg/L**
7439-96-5	Manganese	ND	0.015	mg/L
7439-98-7	Molybdenum	ND	0.030	mg/L

Sample Results

MWC-1B

Collect Date 12/05/2016 14:45 **GCAL ID** 21612090210
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 6020A (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 19:07	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-02-0	Nickel	ND	0.040	mg/L
7440-09-7	**Potassium**	**4.12**	**0.50**	**mg/L**
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	Zinc	ND	0.020	mg/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	10	12/14/2016 19:03	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-23-5	**Sodium**	**21.9**	**1.00**	**mg/L**

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:54	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

MWC-1C

Collect Date 12/05/2016 15:45 **GCAL ID** 21612090211
Receive Date 12/08/2016 10:03 **Matrix** Water

EPA 8270C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 14:36	DLB	600597

CAS#	Parameter	Result	LOQ	Units
95-95-4	2,4,5-Trichlorophenol	ND	10.5	ug/L
88-06-2	2,4,6-Trichlorophenol	ND	10.5	ug/L
120-83-2	2,4-Dichlorophenol	ND	10.5	ug/L
105-67-9	2,4-Dimethylphenol	ND	10.5	ug/L

Sample Results

MWC-1C	**Collect Date**	12/05/2016 15:45	**GCAL ID**	21612090211
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 14:36	DLB	600597

CAS#	Parameter	Result	LOQ	Units
51-28-5	2,4-Dinitrophenol	ND	10.5	ug/L
121-14-2	2,4-Dinitrotoluene	ND	10.5	ug/L
606-20-2	2,6-Dinitrotoluene	ND	10.5	ug/L
91-58-7	2-Chloronaphthalene	ND	10.5	ug/L
95-57-8	2-Chlorophenol	ND	10.5	ug/L
88-74-4	2-Nitroaniline	ND	10.5	ug/L
88-75-5	2-Nitrophenol	ND	10.5	ug/L
91-94-1	3,3'-Dichlorobenzidine	ND	10.5	ug/L
99-09-2	3-Nitroaniline	ND	10.5	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	ND	10.5	ug/L
101-55-3	4-Bromophenyl phenyl ether	ND	10.5	ug/L
59-50-7	4-Chloro-3-methylphenol	ND	10.5	ug/L
106-47-8	4-Chloroaniline	ND	10.5	ug/L
7005-72-3	4-Chlorophenyl phenyl ether	ND	10.5	ug/L
100-01-6	4-Nitroaniline	ND	10.5	ug/L
100-02-7	4-Nitrophenol	ND	10.5	ug/L
98-86-2	Acetophenone	ND	10.5	ug/L
1912-24-9	Atrazine (Aatrex)	ND	52.6	ug/L
100-52-7	Benzaldehyde	ND	52.6	ug/L
92-52-4	Biphenyl	ND	10.5	ug/L
111-91-1	Bis(2-Chloroethoxy)methane	ND	10.5	ug/L
111-44-4	Bis(2-Chloroethyl)ether	ND	10.5	ug/L
108-60-1	Bis(2-Chloroisopropyl)ether	ND	10.5	ug/L
117-81-7	Bis(2-Ethylhexyl)phthalate	ND	10.5	ug/L
85-68-7	Butyl benzyl phthalate	ND	10.5	ug/L
105-60-2	Caprolactam	ND	10.5	ug/L
86-74-8	Carbazole	ND	10.5	ug/L
132-64-9	Dibenzofuran	ND	10.5	ug/L
84-66-2	Diethyl phthalate	ND	10.5	ug/L
131-11-3	Dimethyl phthalate	ND	10.5	ug/L
84-74-2	Di-n-butyl phthalate	ND	10.5	ug/L
117-84-0	Di-n-octyl phthalate	ND	10.5	ug/L
118-74-1	Hexachlorobenzene	ND	10.5	ug/L
87-68-3	Hexachlorobutadiene	ND	10.5	ug/L
77-47-4	Hexachlorocyclopentadiene	ND	10.5	ug/L
78-59-1	Isophorone	ND	10.5	ug/L
1319-77-3MP	m,p-Cresol	ND	10.5	ug/L
98-95-3	Nitrobenzene	ND	10.5	ug/L
621-64-7	n-Nitrosodi-n-propylamine	ND	10.5	ug/L
86-30-6	n-Nitrosodiphenylamine	ND	10.5	ug/L
95-48-7	o-Cresol	ND	10.5	ug/L
87-86-5	Pentachlorophenol	ND	10.5	ug/L

Sample Results

MWC-1C	**Collect Date**	12/05/2016 15:45	**GCAL ID**	21612090211
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 14:36	DLB	600597

CAS#	Parameter	Result	LOQ	Units
108-95-2	Phenol	ND	10.5	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	52.60	40.7	ug/L	77	44 - 120
321-60-8	2-Fluorobiphenyl	52.60	39	ug/L	74	44 - 119
1718-51-0	Terphenyl-d14	52.60	54.1	ug/L	103	50 - 134
4165-62-2	Phenol-d5	105	35.6	ug/L	34	10 - 120
367-12-4	2-Fluorophenol	105	52.1	ug/L	49	19 - 119
118-79-6	2,4,6-Tribromophenol	105	91.6	ug/L	87	43 - 140

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 17:25	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	ND	1.11	ug/L
91-57-6	2-Methylnaphthalene	ND	1.11	ug/L
83-32-9	Acenaphthene	ND	1.11	ug/L
208-96-8	Acenaphthylene	ND	1.11	ug/L
120-12-7	Anthracene	ND	0.111	ug/L
56-55-3	Benzo(a)anthracene	ND	0.111	ug/L
50-32-8	Benzo(a)pyrene	ND	0.111	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.167	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.278	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.111	ug/L
218-01-9	Chrysene	ND	0.111	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.111	ug/L
206-44-0	Fluoranthene	ND	0.278	ug/L
86-73-7	Fluorene	ND	0.556	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.278	ug/L
91-20-3	Naphthalene	ND	0.556	ug/L
85-01-8	Phenanthrene	ND	0.111	ug/L
129-00-0	Pyrene	ND	0.278	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.56	4.76	ug/L	86	55 - 111
321-60-8	2-Fluorobiphenyl	5.56	4.8	ug/L	86	53 - 106
1718-51-0	Terphenyl-d14	5.56	3.96	ug/L	71	58 - 132

Sample Results

MWC-1C	**Collect Date**	12/05/2016 15:45	**GCAL ID**	21612090211
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 19:26	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	**Barium**	**0.092**	**0.010**	**mg/L**
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	Iron	ND	0.20	mg/L
7439-92-1	Lead	ND	0.015	mg/L
7439-96-5	Manganese	ND	0.015	mg/L
7439-98-7	Molybdenum	ND	0.030	mg/L
7440-02-0	Nickel	ND	0.040	mg/L
7440-09-7	**Potassium**	**6.40**	**0.50**	**mg/L**
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	Zinc	ND	0.020	mg/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	10	12/14/2016 19:22	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-70-2	**Calcium**	**68.9**	**8.00**	**mg/L**
7439-95-4	**Magnesium**	**13.9**	**2.00**	**mg/L**
7440-23-5	**Sodium**	**21.3**	**1.00**	**mg/L**

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:56	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

Sample Results

GWCC-FB	**Collect Date**	12/05/2016 15:11	**GCAL ID**	21612090212
	Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 17:46	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	ND	1.04	ug/L
91-57-6	2-Methylnaphthalene	ND	1.04	ug/L
83-32-9	Acenaphthene	ND	1.04	ug/L
208-96-8	Acenaphthylene	ND	1.04	ug/L
120-12-7	Anthracene	ND	0.104	ug/L
56-55-3	Benzo(a)anthracene	ND	0.104	ug/L
50-32-8	Benzo(a)pyrene	ND	0.104	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.156	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.260	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.104	ug/L
218-01-9	Chrysene	ND	0.104	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.104	ug/L
206-44-0	Fluoranthene	ND	0.260	ug/L
86-73-7	Fluorene	ND	0.521	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.260	ug/L
91-20-3	Naphthalene	ND	0.521	ug/L
85-01-8	Phenanthrene	ND	0.104	ug/L
129-00-0	Pyrene	ND	0.260	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.21	4.22	ug/L	81	55 - 111
321-60-8	2-Fluorobiphenyl	5.21	4.29	ug/L	82	53 - 106
1718-51-0	Terphenyl-d14	5.21	4.02	ug/L	77	58 - 132

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 19:30	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	Barium	ND	0.010	mg/L
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-70-2	Calcium	ND	0.80	mg/L
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	Iron	ND	0.20	mg/L
7439-92-1	Lead	ND	0.015	mg/L
7439-95-4	Magnesium	ND	0.20	mg/L

Sample Results

GWCC-FB

Collect Date	12/05/2016 15:11	**GCAL ID**	21612090212
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 6020A (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600473	EPA 3010A	1	12/14/2016 19:30	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	ND	0.015	mg/L
7439-98-7	Molybdenum	ND	0.030	mg/L
7440-02-0	Nickel	ND	0.040	mg/L
7440-09-7	Potassium	ND	0.50	mg/L
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-23-5	Sodium	ND	1.00	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	Zinc	ND	0.020	mg/L

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 15:58	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

GWCC-EQ

Collect Date	12/05/2016 18:33	**GCAL ID**	21612090213
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 18:06	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	1-Methylnaphthalene	ND	1.19	ug/L
91-57-6	2-Methylnaphthalene	ND	1.19	ug/L
83-32-9	Acenaphthene	ND	1.19	ug/L
208-96-8	Acenaphthylene	ND	1.19	ug/L
120-12-7	Anthracene	ND	0.119	ug/L
56-55-3	Benzo(a)anthracene	ND	0.119	ug/L
50-32-8	Benzo(a)pyrene	ND	0.119	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.179	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.298	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.119	ug/L
218-01-9	Chrysene	ND	0.119	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.119	ug/L

Sample Results

GWCC-EQ

Collect Date	12/05/2016 18:33	**GCAL ID**	21612090213
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C SIM (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 18:06	SMH	600776

CAS#	Parameter	Result	LOQ	Units
206-44-0	Fluoranthene	ND	0.298	ug/L
86-73-7	Fluorene	ND	0.595	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.298	ug/L
91-20-3	Naphthalene	ND	0.595	ug/L
85-01-8	Phenanthrene	ND	0.119	ug/L
129-00-0	Pyrene	ND	0.298	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.95	5.14	ug/L	86	55 - 111
321-60-8	2-Fluorobiphenyl	5.95	5.12	ug/L	86	53 - 106
1718-51-0	Terphenyl-d14	5.95	4.81	ug/L	81	58 - 132

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600475	EPA 3010A	1	12/14/2016 19:42	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	Barium	ND	0.010	mg/L
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-70-2	Calcium	ND	0.80	mg/L
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	Iron	ND	0.20	mg/L
7439-92-1	Lead	ND	0.015	mg/L
7439-95-4	Magnesium	ND	0.20	mg/L
7439-96-5	Manganese	ND	0.015	mg/L
7439-98-7	Molybdenum	ND	0.030	mg/L
7440-02-0	Nickel	ND	0.040	mg/L
7440-09-7	Potassium	ND	0.50	mg/L
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-23-5	Sodium	ND	1.00	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	Zinc	ND	0.020	mg/L

Sample Results

GWCC-EQ

Collect Date	12/05/2016 18:33	**GCAL ID**	21612090213
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 16:00	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

MM-03-DUP

Collect Date	12/05/2016 13:05	**GCAL ID**	21612090214
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 14:52	DLB	600597

CAS#	Parameter	Result	LOQ	Units
95-95-4	2,4,5-Trichlorophenol	ND	10.5	ug/L
88-06-2	2,4,6-Trichlorophenol	ND	10.5	ug/L
120-83-2	2,4-Dichlorophenol	ND	10.5	ug/L
105-67-9	2,4-Dimethylphenol	ND	10.5	ug/L
51-28-5	2,4-Dinitrophenol	ND	10.5	ug/L
121-14-2	2,4-Dinitrotoluene	ND	10.5	ug/L
606-20-2	2,6-Dinitrotoluene	ND	10.5	ug/L
91-58-7	2-Chloronaphthalene	ND	10.5	ug/L
95-57-8	2-Chlorophenol	ND	10.5	ug/L
88-74-4	2-Nitroaniline	ND	10.5	ug/L
88-75-5	2-Nitrophenol	ND	10.5	ug/L
91-94-1	3,3'-Dichlorobenzidine	ND	10.5	ug/L
99-09-2	3-Nitroaniline	ND	10.5	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	ND	10.5	ug/L
101-55-3	4-Bromophenyl phenyl ether	ND	10.5	ug/L
59-50-7	4-Chloro-3-methylphenol	ND	10.5	ug/L
106-47-8	4-Chloroaniline	ND	10.5	ug/L
7005-72-3	4-Chlorophenyl phenyl ether	ND	10.5	ug/L
100-01-6	4-Nitroaniline	ND	10.5	ug/L
100-02-7	4-Nitrophenol	ND	10.5	ug/L
98-86-2	Acetophenone	ND	10.5	ug/L
1912-24-9	Atrazine (Aatrex)	ND	52.6	ug/L
100-52-7	Benzaldehyde	ND	52.6	ug/L
92-52-4	Biphenyl	ND	10.5	ug/L
111-91-1	Bis(2-Chloroethoxy)methane	ND	10.5	ug/L
111-44-4	Bis(2-Chloroethyl)ether	ND	10.5	ug/L
108-60-1	Bis(2-Chloroisopropyl)ether	ND	10.5	ug/L
117-81-7	Bis(2-Ethylhexyl)phthalate	ND	10.5	ug/L
85-68-7	Butyl benzyl phthalate	ND	10.5	ug/L
105-60-2	Caprolactam	ND	10.5	ug/L
86-74-8	Carbazole	ND	10.5	ug/L
132-64-9	Dibenzofuran	ND	10.5	ug/L

Sample Results

MM-03-DUP

Collect Date	12/05/2016 13:05	**GCAL ID**	21612090214
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/11/2016 15:10	600535	EPA 3510C	1	12/12/2016 14:52	DLB	600597

CAS#	Parameter	Result	LOQ	Units
84-66-2	Diethyl phthalate	ND	10.5	ug/L
131-11-3	Dimethyl phthalate	ND	10.5	ug/L
84-74-2	Di-n-butyl phthalate	ND	10.5	ug/L
117-84-0	Di-n-octyl phthalate	ND	10.5	ug/L
118-74-1	Hexachlorobenzene	ND	10.5	ug/L
87-68-3	Hexachlorobutadiene	ND	10.5	ug/L
77-47-4	Hexachlorocyclopentadiene	ND	10.5	ug/L
78-59-1	Isophorone	ND	10.5	ug/L
1319-77-3MP	m,p-Cresol	ND	10.5	ug/L
98-95-3	Nitrobenzene	ND	10.5	ug/L
621-64-7	n-Nitrosodi-n-propylamine	ND	10.5	ug/L
86-30-6	n-Nitrosodiphenylamine	ND	10.5	ug/L
95-48-7	o-Cresol	ND	10.5	ug/L
87-86-5	Pentachlorophenol	ND	10.5	ug/L
108-95-2	Phenol	ND	10.5	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	52.60	40.4	ug/L	77	44 - 120
321-60-8	2-Fluorobiphenyl	52.60	41.3	ug/L	78	44 - 119
1718-51-0	Terphenyl-d14	52.60	49.5	ug/L	94	50 - 134
4165-62-2	Phenol-d5	105	34.2	ug/L	32	10 - 120
367-12-4	2-Fluorophenol	105	52.9	ug/L	50	19 - 119
118-79-6	2,4,6-Tribromophenol	105	99.5	ug/L	95	43 - 140

EPA 8270C SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 18:27	SMH	600776

CAS#	Parameter	Result	LOQ	Units
90-12-0	**1-Methylnaphthalene**	**2.07**	**1.14**	**ug/L**
91-57-6	2-Methylnaphthalene	ND	1.14	ug/L
83-32-9	Acenaphthene	ND	1.14	ug/L
208-96-8	Acenaphthylene	ND	1.14	ug/L
120-12-7	Anthracene	ND	0.114	ug/L
56-55-3	Benzo(a)anthracene	ND	0.114	ug/L
50-32-8	Benzo(a)pyrene	ND	0.114	ug/L
205-99-2	Benzo(b)fluoranthene	ND	0.170	ug/L
191-24-2	Benzo(g,h,i)perylene	ND	0.284	ug/L
207-08-9	Benzo(k)fluoranthene	ND	0.114	ug/L
218-01-9	Chrysene	ND	0.114	ug/L
53-70-3	Dibenz(a,h)anthracene	ND	0.114	ug/L
206-44-0	Fluoranthene	ND	0.284	ug/L

Sample Results

MM-03-DUP

Collect Date	12/05/2016 13:05	**GCAL ID**	21612090214
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 8270C SIM (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 16:30	600530	EPA 3510C	1	12/14/2016 18:27	SMH	600776

CAS#	Parameter	Result	LOQ	Units
86-73-7	Fluorene	ND	0.568	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.284	ug/L
91-20-3	**Naphthalene**	**2.56**	**0.568**	**ug/L**
85-01-8	**Phenanthrene**	**0.304**	**0.114**	**ug/L**
129-00-0	Pyrene	ND	0.284	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.68	4.5	ug/L	79	55 - 111
321-60-8	2-Fluorobiphenyl	5.68	4.55	ug/L	80	53 - 106
1718-51-0	Terphenyl-d14	5.68	4	ug/L	70	58 - 132

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600475	EPA 3010A	1	12/14/2016 19:49	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7429-90-5	Aluminum	ND	0.20	mg/L
7440-36-0	Antimony	ND	0.060	mg/L
7440-38-2	Arsenic	ND	0.020	mg/L
7440-39-3	**Barium**	**0.13**	**0.010**	**mg/L**
7440-41-7	Beryllium	ND	0.0040	mg/L
7440-43-9	Cadmium	ND	0.0050	mg/L
7440-70-2	**Calcium**	**29.2**	**0.80**	**mg/L**
7440-47-3	Chromium	ND	0.010	mg/L
7440-48-4	Cobalt	ND	0.010	mg/L
7440-50-8	Copper	ND	0.020	mg/L
7439-89-6	Iron	ND	0.20	mg/L
7439-92-1	Lead	ND	0.015	mg/L
7439-95-4	**Magnesium**	**5.82**	**0.20**	**mg/L**
7439-96-5	**Manganese**	**0.21**	**0.015**	**mg/L**
7439-98-7	Molybdenum	ND	0.030	mg/L
7440-02-0	Nickel	ND	0.040	mg/L
7440-09-7	**Potassium**	**2.99**	**0.50**	**mg/L**
7782-49-2	Selenium	ND	0.040	mg/L
7440-22-4	Silver	ND	0.010	mg/L
7440-28-0	Thallium	ND	0.020	mg/L
7440-62-2	Vanadium	ND	0.020	mg/L
7440-66-6	Zinc	ND	0.020	mg/L

Sample Results

MM-03-DUP

Collect Date	12/05/2016 13:05	**GCAL ID**	21612090214
Receive Date	12/08/2016 10:03	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/10/2016 11:00	600475	EPA 3010A	10	12/14/2016 19:45	AWG	600769

CAS#	Parameter	Result	LOQ	Units
7440-23-5	**Sodium**	**12.3**	**1.00**	**mg/L**

EPA 7470A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/13/2016 00:00	600649	EPA 7470A	1	12/14/2016 16:01	JLN	600787

CAS#	Parameter	Result	LOQ	Units
7439-97-6	Mercury	ND	0.00020	mg/L

GC/MS Semi-Volatiles QC Summary

Analytical Batch	Client ID	MB600535		LCS600535				LCSD600535				
600597	GCAL ID	1636955		1636956				1636957				
Prep Batch	Sample Type	MB		LCS				LCSD				
600535	Prep Date	12/11/2016 15:10		12/11/2016 15:10				12/11/2016 15:10				
Prep Method	Analysis Date	12/12/2016 09:42		12/12/2016 09:58				12/12/2016 10:14				
EPA 3510C	Matrix	Water		Water				Water				
EPA 8270C		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
2,4,5-Trichlorophenol	95-95-4	ND	10.0	50.0	45.3	91	53 - 123	50.0	46.1	92	2	30
2,4,6-Trichlorophenol	88-06-2	ND	10.0	50.0	48.1	96	50 - 125	50.0	46.9	94	3	30
2,4-Dichlorophenol	120-83-2	ND	10.0	50.0	43.9	88	47 - 121	50.0	44.0	88	0	30
2,4-Dimethylphenol	105-67-9	ND	10.0	50.0	44.4	89	31 - 124	50.0	44.3	89	0	30
2,4-Dinitrophenol	51-28-5	ND	10.0	50.0	32.9	66	23 - 143	50.0	36.4	73	10	30
2,4-Dinitrotoluene	121-14-2	ND	10.0	50.0	43.0	86	57 - 128	50.0	48.7	97	12	30
2,6-Dinitrotoluene	606-20-2	ND	10.0	50.0	45.0	90	57 - 124	50.0	45.9	92	2	30
2-Chloronaphthalene	91-58-7	ND	10.0	50.0	41.7	83	40 - 116	50.0	37.7	75	10	30
2-Chlorophenol	95-57-8	ND	10.0	50.0	40.9	82	38 - 117	50.0	42.0	84	3	30
2-Nitroaniline	88-74-4	ND	10.0	50.0	42.1	84	55 - 127	50.0	47.4	95	12	30
2-Nitrophenol	88-75-5	ND	10.0	50.0	43.0	86	47 - 123	50.0	40.8	82	5	30
3,3'-Dichlorobenzidine	91-94-1	ND	10.0	50.0	62.7	125	27 - 129	50.0	57.0	114	10	30
3-Nitroaniline	99-09-2	ND	10.0	50.0	39.5	79	41 - 128	50.0	42.3	85	7	30
4,6-Dinitro-2-methylphenol	534-52-1	ND	10.0	50.0	44.5	89	44 - 137	50.0	45.0	90	1	30
4-Bromophenyl phenyl ether	101-55-3	ND	10.0	50.0	50.8	102	55 - 124	50.0	47.8	96	6	30
4-Chloro-3-methylphenol	59-50-7	ND	10.0	50.0	43.2	86	52 - 119	50.0	48.2	96	11	30
4-Chloroaniline	106-47-8	ND	10.0	50.0	38.7	77	33 - 117	50.0	40.2	80	4	30
4-Chlorophenyl phenyl ether	7005-72-3	ND	10.0	50.0	48.7	97	53 - 121	50.0	52.6	105	8	30
4-Nitroaniline	100-01-6	ND	10.0	50.0	39.6	79	38 - 120	50.0	44.9	90	13	30
4-Nitrophenol	100-02-7	ND	10.0	50.0	22.0	44	10 - 120	50.0	24.7	49	12	30
Acetophenone	98-86-2	ND	10.0	50.0	47.7	95	46 - 118	50.0	47.0	94	1	30
Atrazine (Aatrex)	1912-24-9	ND	50.0	50.0	30.9	62	44 - 142	50.0	30.3	61	2	30
Benzaldehyde	100-52-7	ND	50.0	50.0	92.8	**186***	20 - 120	50.0	92.2	**184***	1	30
Biphenyl	92-52-4	ND	10.0	50.0	42.7	85	49 - 115	50.0	45.3	91	6	30
Bis(2-Chloroethoxy)methane	111-91-1	ND	10.0	50.0	50.7	101	48 - 120	50.0	52.5	105	3	30
Bis(2-Chloroethyl)ether	111-44-4	ND	10.0	50.0	42.6	85	43 - 118	50.0	44.8	90	5	30
Bis(2-Chloroisopropyl)ether	108-60-1	ND	10.0	50.0	37.1	74	37 - 130	50.0	39.7	79	7	30
Bis(2-Ethylhexyl)phthalate	117-81-7	ND	10.0	50.0	44.4	89	55 - 135	50.0	45.6	91	3	30
Butyl benzyl phthalate	85-68-7	ND	10.0	50.0	43.5	87	53 - 134	50.0	46.5	93	7	30
Caprolactam	105-60-2	ND	10.0	50.0	18.3	37	20 - 120	50.0	24.5	49	29	30
Carbazole	86-74-8	ND	10.0	50.0	49.4	99	60 - 122	50.0	48.7	97	1	30
Dibenzofuran	132-64-9	ND	10.0	50.0	43.3	87	53 - 118	50.0	43.3	87	0	30
Diethyl phthalate	84-66-2	ND	10.0	50.0	45.3	91	56 - 125	50.0	49.9	100	10	30
Dimethyl phthalate	131-11-3	ND	10.0	50.0	43.2	86	45 - 127	50.0	46.7	93	8	30
Di-n-butyl phthalate	84-74-2	ND	10.0	50.0	43.7	87	59 - 127	50.0	45.3	91	4	30
Di-n-octyl phthalate	117-84-0	ND	10.0	50.0	47.4	95	51 - 140	50.0	44.1	88	7	30
Hexachlorobenzene	118-74-1	ND	10.0	50.0	50.3	101	53 - 125	50.0	45.2	90	11	30
Hexachlorobutadiene	87-68-3	ND	10.0	50.0	44.2	88	22 - 124	50.0	36.4	73	19	30
Hexachlorocyclopentadiene	77-47-4	ND	10.0	50.0	29.2	58	16 - 120	50.0	22.8	46	25	30
Isophorone	78-59-1	ND	10.0	50.0	41.5	83	42 - 124	50.0	42.2	84	2	30
m,p-Cresol	1319-77-3MP	ND	10.0	50.0	34.4	69	29 - 110	50.0	34.5	69	0	30
Nitrobenzene	98-95-3	ND	10.0	50.0	47.4	95	45 - 121	50.0	47.9	96	1	30
n-Nitrosodi-n-propylamine	621-64-7	ND	10.0	50.0	46.3	93	49 - 119	50.0	48.4	97	4	30
n-Nitrosodiphenylamine	86-30-6	ND	10.0	50.0	50.7	101	51 - 123	50.0	45.5	91	11	30
o-Cresol	95-48-7	ND	10.0	50.0	35.8	72	30 - 117	50.0	37.4	75	4	30
Pentachlorophenol	87-86-5	ND	10.0	50.0	39.7	79	35 - 138	50.0	37.3	75	6	30
Phenol	108-95-2	ND	10.0	50.0	24.1	48	16 - 120	50.0	22.4	45	7	30
Surrogate												
2,4,6-Tribromophenol	118-79-6	88	88	100	94	94	43 - 140	100	111	111	NA	NA
2-Fluorobiphenyl	321-60-8	39.5	79	50	40.1	80	44 - 119	50	39.4	79	NA	NA
2-Fluorophenol	367-12-4	50.3	50	100	52.5	53	19 - 119	100	54.2	54	NA	NA
Nitrobenzene-d5	4165-60-0	41.3	83	50	41.8	84	44 - 120	50	40.3	81	NA	NA
Phenol-d5	4165-62-2	33.8	34	100	39.3	39	10 - 120	100	39.9	40	NA	NA
Terphenyl-d14	1718-51-0	41.2	82	50	35.2	70	50 - 134	50	40.1	80	NA	NA

GC/MS Semi-Volatiles QC Summary

Analytical Batch	Client ID	MM-04	MM-04-MS	MM-04-MSD
600597	GCAL ID	21612090201	21612090202	21612090203
Prep Batch	Sample Type	SAMPLE	MS	MSD
600535	Prep Date	12/11/2016 15:10	12/11/2016 15:10	12/11/2016 15:10
Prep Method	Analysis Date	12/12/2016 13:14	12/12/2016 13:30	12/12/2016 13:47
EPA 3510C	Matrix	Water	Water	Water

EPA 8270C		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
2,4,5-Trichlorophenol	95-95-4	0.00	10.6	53.2	46.9	88	53 - 123	52.6	42.6	81	10	30
2,4,6-Trichlorophenol	88-06-2	0.00	10.6	53.2	51.0	96	50 - 125	52.6	48.5	92	5	30
2,4-Dichlorophenol	120-83-2	0.00	10.6	53.2	43.9	83	47 - 121	52.6	45.0	86	2	30
2,4-Dimethylphenol	105-67-9	0.00	10.6	53.2	39.6	74	31 - 124	52.6	45.0	86	13	30
2,4-Dinitrophenol	51-28-5	0.00	10.6	53.2	36.4	68	23 - 143	52.6	30.7	58	17	30
2,4-Dinitrotoluene	121-14-2	0.00	10.6	53.2	48.0	90	57 - 128	52.6	40.1	76	18	30
2,6-Dinitrotoluene	606-20-2	0.00	10.6	53.2	46.3	87	57 - 124	52.6	43.6	83	6	30
2-Chloronaphthalene	91-58-7	0.00	10.6	53.2	42.8	80	40 - 116	52.6	39.7	75	8	30
2-Chlorophenol	95-57-8	0.00	10.6	53.2	40.7	77	38 - 117	52.6	42.8	81	5	30
2-Nitroaniline	88-74-4	0.00	10.6	53.2	44.6	84	55 - 127	52.6	42.8	81	4	30
2-Nitrophenol	88-75-5	0.00	10.6	53.2	43.5	82	47 - 123	52.6	44.5	85	2	30
3,3'-Dichlorobenzidine	91-94-1	0.00	10.6	53.2	60.3	113	27 - 129	52.6	62.9	120	4	30
3-Nitroaniline	99-09-2	0.00	10.6	53.2	40.3	76	41 - 128	52.6	35.9	68	12	30
4,6-Dinitro-2-methylphenol	534-52-1	0.00	10.6	53.2	43.5	82	44 - 137	52.6	44.0	84	1	30
4-Bromophenyl phenyl ether	101-55-3	0.00	10.6	53.2	53.4	100	55 - 124	52.6	58.1	110	8	30
4-Chloro-3-methylphenol	59-50-7	0.00	10.6	53.2	44.6	84	52 - 119	52.6	43.2	82	3	30
4-Chloroaniline	106-47-8	0.00	10.6	53.2	38.1	72	33 - 117	52.6	39.7	75	4	30
4-Chlorophenyl phenyl ether	7005-72-3	0.00	10.6	53.2	54.8	103	53 - 121	52.6	48.2	92	13	30
4-Nitroaniline	100-01-6	0.00	10.6	53.2	42.0	79	38 - 120	52.6	34.7	66	19	30
4-Nitrophenol	100-02-7	0.00	10.6	53.2	22.5	42	10 - 120	52.6	20.4	39	10	30
Acetophenone	98-86-2	0.00	10.6	53.2	48.5	91	46 - 118	52.6	48.6	92	0	30
Atrazine (Aatrex)	1912-24-9	0.00	53.2	53.2	31.3	59	44 - 142	52.6	30.9	59	1	30
Benzaldehyde	100-52-7	0.00	53.2	53.2	90.1	**169***	20 - 120	52.6	91.6	**174***	2	30
Biphenyl	92-52-4	0.00	10.6	53.2	46.7	88	49 - 115	52.6	42.6	81	9	30
Bis(2-Chloroethoxy)methane	111-91-1	0.00	10.6	53.2	52.5	99	48 - 120	52.6	54.3	103	3	30
Bis(2-Chloroethyl)ether	111-44-4	0.00	10.6	53.2	44.7	84	43 - 118	52.6	45.7	87	2	30
Bis(2-Chloroisopropyl)ether	108-60-1	0.00	10.6	53.2	40.0	75	37 - 130	52.6	39.5	75	1	30
Bis(2-Ethylhexyl)phthalate	117-81-7	0.00	10.6	53.2	45.4	85	55 - 135	52.6	41.1	78	10	30
Butyl benzyl phthalate	85-68-7	0.00	10.6	53.2	44.7	84	53 - 134	52.6	42.6	81	5	30
Caprolactam	105-60-2	0.00	10.6	53.2	19.6	37	20 - 120	52.6	20.7	39	5	30
Carbazole	86-74-8	0.00	10.6	53.2	47.6	89	60 - 122	52.6	46.2	88	3	30
Dibenzofuran	132-64-9	0.00	10.6	53.2	47.7	90	53 - 118	52.6	40.7	77	16	30
Diethyl phthalate	84-66-2	0.00	10.6	53.2	49.4	93	56 - 125	52.6	42.6	81	15	30
Dimethyl phthalate	131-11-3	0.00	10.6	53.2	46.7	88	45 - 127	52.6	43.1	82	8	30
Di-n-butyl phthalate	84-74-2	0.00	10.6	53.2	46.2	87	59 - 127	52.6	42.6	81	8	30
Di-n-octyl phthalate	117-84-0	0.00	10.6	53.2	47.3	89	51 - 140	52.6	43.7	83	8	30
Hexachlorobenzene	118-74-1	0.00	10.6	53.2	53.0	100	53 - 125	52.6	54.0	103	2	30
Hexachlorobutadiene	87-68-3	0.00	10.6	53.2	43.1	81	22 - 124	52.6	39.1	74	10	30
Hexachlorocyclopentadiene	77-47-4	0.00	10.6	53.2	29.2	55	16 - 120	52.6	26.8	51	9	30
Isophorone	78-59-1	0.00	10.6	53.2	41.0	77	42 - 124	52.6	42.1	80	3	30
m,p-Cresol	1319-77-3MP	0.00	10.6	53.2	35.3	66	29 - 110	52.6	37.2	71	5	30
Nitrobenzene	98-95-3	0.00	10.6	53.2	47.5	89	45 - 121	52.6	48.4	92	2	30
n-Nitrosodi-n-propylamine	621-64-7	0.00	10.6	53.2	48.3	91	49 - 119	52.6	48.8	93	1	30
n-Nitrosodiphenylamine	86-30-6	0.00	10.6	53.2	50.7	95	51 - 123	52.6	56.4	107	11	30
o-Cresol	95-48-7	0.00	10.6	53.2	36.2	68	30 - 117	52.6	38.2	73	5	30
Pentachlorophenol	87-86-5	0.00	10.6	53.2	42.9	81	35 - 138	52.6	40.7	77	5	30
Phenol	108-95-2	0.00	10.6	53.2	23.4	44	16 - 120	52.6	24.3	46	4	30
Surrogate												
2,4,6-Tribromophenol	118-79-6	100	95	106	98.8	93	43 - 140	105	91.4	87	NA	NA
2-Fluorobiphenyl	321-60-8	42.7	81	53.2	45.8	86	44 - 119	52.6	41.4	79	NA	NA
2-Fluorophenol	367-12-4	58.9	56	106	56.1	53	19 - 119	105	54.6	52	NA	NA
Nitrobenzene-d5	4165-60-0	40	76	53.2	42.6	80	44 - 120	52.6	42.7	81	NA	NA
Phenol-d5	4165-62-2	38.8	37	106	40	38	10 - 120	105	39.7	38	NA	NA
Terphenyl-d14	1718-51-0	46.6	89	53.2	40.1	75	50 - 134	52.6	43.7	83	NA	NA

GC/MS Semi-Volatiles QC Summary

Analytical Batch	Client ID	MB600530	LCS600530	LCSD600530
600776	GCAL ID	1636938	1636939	1636940
Prep Batch	Sample Type	MB	LCS	LCSD
600530	Prep Date	12/10/2016 16:30	12/10/2016 16:30	12/10/2016 16:30
Prep Method	Analysis Date	12/14/2016 12:20	12/14/2016 12:40	12/14/2016 13:01
EPA 3510C	Matrix	Water	Water	Water

EPA 8270C SIM		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1-Methylnaphthalene	90-12-0	ND	1.00	5.00	4.25	85	41 - 115	5.00	3.86	77	10	30
2-Methylnaphthalene	91-57-6	ND	1.00	5.00	5.14	103	39 - 114	5.00	4.70	94	9	30
Acenaphthene	83-32-9	ND	1.00	5.00	4.60	92	48 - 114	5.00	4.34	87	6	30
Acenaphthylene	208-96-8	ND	1.00	5.00	4.70	94	35 - 121	5.00	4.43	89	6	30
Anthracene	120-12-7	ND	0.100	5.00	4.76	95	53 - 119	5.00	4.48	90	6	30
Benzo(a)anthracene	56-55-3	ND	0.100	5.00	4.76	95	59 - 120	5.00	4.44	89	7	30
Benzo(a)pyrene	50-32-8	ND	0.100	5.00	4.99	100	53 - 120	5.00	4.64	93	7	30
Benzo(b)fluoranthene	205-99-2	ND	0.150	5.00	4.85	97	53 - 126	5.00	4.55	91	6	30
Benzo(g,h,i)perylene	191-24-2	ND	0.250	5.00	4.15	83	44 - 128	5.00	3.88	78	7	30
Benzo(k)fluoranthene	207-08-9	ND	0.100	5.00	4.81	96	54 - 125	5.00	4.48	90	7	30
Chrysene	218-01-9	ND	0.100	5.00	4.68	94	57 - 120	5.00	4.40	88	6	30
Dibenz(a,h)anthracene	53-70-3	ND	0.100	5.00	4.72	94	44 - 131	5.00	4.39	88	7	30
Fluoranthene	206-44-0	ND	0.250	5.00	4.97	99	58 - 120	5.00	4.57	91	8	30
Fluorene	86-73-7	ND	0.500	5.00	4.53	91	50 - 118	5.00	4.26	85	6	30
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.250	5.00	4.78	96	48 - 130	5.00	4.44	89	7	30
Naphthalene	91-20-3	ND	0.500	5.00	4.45	89	43 - 114	5.00	4.17	83	6	30
Phenanthrene	85-01-8	ND	0.100	5.00	4.67	93	53 - 115	5.00	4.41	88	6	30
Pyrene	129-00-0	ND	0.250	5.00	4.73	95	53 - 121	5.00	4.43	89	7	30
Surrogate												
2-Fluorobiphenyl	321-60-8	4.51	90	5	4.09	82	53 - 106	5	3.97	79	NA	NA
Nitrobenzene-d5	4165-60-0	4.62	92	5	4.32	86	55 - 111	5	4.1	82	NA	NA
Terphenyl-d14	1718-51-0	4.22	84	5	3.91	78	58 - 132	5	3.81	76	NA	NA

Analytical Batch	Client ID	MM-04	MM-04-MS	MM-04-MSD
600776	GCAL ID	21612090201	21612090202	21612090203
Prep Batch	Sample Type	SAMPLE	MS	MSD
600530	Prep Date	12/10/2016 16:30	12/10/2016 16:30	12/10/2016 16:30
Prep Method	Analysis Date	12/14/2016 14:01	12/14/2016 14:22	12/14/2016 14:42
EPA 3510C	Matrix	Water	Water	Water

EPA 8270C SIM		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1-Methylnaphthalene	90-12-0	0.035	1.04	5.21	4.05	77	41 - 115	5.56	4.64	83	14	30
2-Methylnaphthalene	91-57-6	0.060	1.04	5.21	4.89	93	39 - 114	5.56	5.60	100	14	30
Acenaphthene	83-32-9	0.00	1.04	5.21	4.51	87	48 - 114	5.56	5.29	95	16	30
Acenaphthylene	208-96-8	0.00	1.04	5.21	4.58	88	35 - 121	5.56	5.39	97	16	30
Anthracene	120-12-7	0.00	0.104	5.21	4.62	89	53 - 119	5.56	5.47	98	17	30
Benzo(a)anthracene	56-55-3	0.028	0.104	5.21	4.47	85	59 - 120	5.56	5.32	95	17	30
Benzo(a)pyrene	50-32-8	0.057	0.104	5.21	4.06	77	53 - 120	5.56	5.02	89	21	30
Benzo(b)fluoranthene	205-99-2	0.081	0.156	5.21	3.90	73	53 - 126	5.56	4.89	87	23	30
Benzo(g,h,i)perylene	191-24-2	0.063	0.260	5.21	2.08	**39***	44 - 128	5.56	2.49	44	18	30
Benzo(k)fluoranthene	207-08-9	0.028	0.104	5.21	3.74	71	54 - 125	5.56	4.85	87	26	30
Chrysene	218-01-9	0.047	0.104	5.21	4.42	84	57 - 120	5.56	5.35	95	19	30
Dibenz(a,h)anthracene	53-70-3	0.00	0.104	5.21	1.98	**38***	44 - 131	5.56	2.24	**40***	12	30
Fluoranthene	206-44-0	0.074	0.260	5.21	4.75	90	58 - 120	5.56	5.61	100	17	30
Fluorene	86-73-7	0.00	0.521	5.21	4.40	84	50 - 118	5.56	5.20	94	17	30
Indeno(1,2,3-cd)pyrene	193-39-5	0.068	0.260	5.21	2.43	**45***	48 - 130	5.56	3.07	54	23	30
Naphthalene	91-20-3	0.027	0.521	5.21	4.36	83	43 - 114	5.56	5.13	92	16	30
Phenanthrene	85-01-8	0.028	0.104	5.21	4.54	87	53 - 115	5.56	5.36	96	17	30
Pyrene	129-00-0	0.063	0.260	5.21	4.56	86	53 - 121	5.56	5.42	96	17	30
Surrogate												
2-Fluorobiphenyl	321-60-8	4.25	82	5.21	4.22	81	53 - 106	5.56	4.93	89	NA	NA
Nitrobenzene-d5	4165-60-0	4.17	80	5.21	4.23	81	55 - 111	5.56	4.93	89	NA	NA
Terphenyl-d14	1718-51-0	3.83	74	5.21	3.74	72	58 - 132	5.56	4.44	80	NA	NA

Inorganics QC Summary

Analytical Batch	Client ID	MB600649		LCS600649			
600787	GCAL ID	1637440		1637441			
Prep Batch	Sample Type	MB		LCS			
600649	Prep Date	12/13/2016 00:00		12/13/2016 00:00			
Prep Method	Analysis Date	12/14/2016 15:24		12/14/2016 15:30			
EPA 7470A	Matrix	Water		Water			
EPA 7470A		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R
Mercury	7439-97-6	ND	0.00020	0.0050	0.0056	112	80 - 120

Analytical Batch	Client ID	MM-04		MM-04-MS				MM-04-MSD				
600787	GCAL ID	21612090201		21612090202				21612090203				
Prep Batch	Sample Type	SAMPLE		MS				MSD				
600649	Prep Date	12/13/2016 00:00		12/13/2016 00:00				12/13/2016 00:00				
Prep Method	Analysis Date	12/14/2016 15:32		12/14/2016 15:34				12/14/2016 15:36				
EPA 7470A	Matrix	Water		Water				Water				
EPA 7470A		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Mercury	7439-97-6	0.0	0.00020	0.0050	0.0054	109	80 - 120	0.0050	0.0056	111	4	20

Analytical Batch	Client ID	MB600473		LCS600473			
600548	GCAL ID	1636549		1636550			
Prep Batch	Sample Type	MB		LCS			
600473	Prep Date	12/10/2016 11:00		12/10/2016 11:00			
Prep Method	Analysis Date	12/11/2016 13:06		12/11/2016 13:10			
EPA 3010A	Matrix	Water		Water			
EPA 6020A		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R
Aluminum	7429-90-5	ND	0.20	1.00	1.08	108	80 - 120
Antimony	7440-36-0	ND	0.060	0.10	0.10	101	80 - 120
Arsenic	7440-38-2	ND	0.020	0.050	0.052	104	80 - 120
Barium	7440-39-3	ND	0.010	0.050	0.053	107	80 - 120
Beryllium	7440-41-7	ND	0.0040	0.050	0.052	104	80 - 120
Cadmium	7440-43-9	ND	0.0050	0.050	0.051	101	80 - 120
Calcium	7440-70-2	ND	0.80	25.0	26.6	106	80 - 120
Chromium	7440-47-3	ND	0.010	0.050	0.054	108	80 - 120
Cobalt	7440-48-4	ND	0.010	0.050	0.054	108	80 - 120
Copper	7440-50-8	ND	0.020	0.050	0.053	106	80 - 120
Iron	7439-89-6	ND	0.20	5.00	5.40	108	80 - 120
Lead	7439-92-1	ND	0.015	0.050	0.052	105	80 - 120
Magnesium	7439-95-4	ND	0.20	5.00	5.37	107	80 - 120
Manganese	7439-96-5	ND	0.015	0.050	0.052	103	80 - 120
Molybdenum	7439-98-7	ND	0.030	0.050	0.052	105	80 - 120
Nickel	7440-02-0	ND	0.040	0.10	0.11	107	80 - 120
Potassium	7440-09-7	ND	0.50	5.00	5.31	106	80 - 120
Selenium	7782-49-2	ND	0.040	0.010	0.010	103	80 - 120
Silver	7440-22-4	ND	0.010	0.050	0.051	102	80 - 120
Sodium	7440-23-5	ND	0.10	5.00	5.47	109	80 - 120
Thallium	7440-28-0	ND	0.020	0.050	0.052	103	80 - 120
Vanadium	7440-62-2	ND	0.020	0.050	0.054	107	80 - 120
Zinc	7440-66-6	ND	0.020	1.00	1.03	103	80 - 120

Inorganics QC Summary

Analytical Batch	Client ID	MM-04		MM-04-MS				MM-04-MSD				
600769	GCAL ID	21612090201		21612090202				21612090203				
Prep Batch	Sample Type	SAMPLE		MS				MSD				
600473	Prep Date	12/10/2016 11:00		12/10/2016 11:00				12/10/2016 11:00				
Prep Method	Analysis Date	12/14/2016 17:47		12/14/2016 17:51				12/14/2016 17:55				
EPA 3010A	Matrix	Water		Water				Water				
EPA 6020A		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Aluminum	7429-90-5	0.057	0.20	1.00	1.10	105	80 - 120	1.00	1.11	105	1	20
Antimony	7440-36-0	0.0	0.060	0.10	0.10	105	80 - 120	0.10	0.10	104	0	20
Arsenic	7440-38-2	0.0	0.020	0.050	0.052	104	80 - 120	0.050	0.051	103	2	20
Barium	7440-39-3	0.019	0.010	0.050	0.069	99	80 - 120	0.050	0.069	99	0	20
Beryllium	7440-41-7	0.0	0.0040	0.050	0.051	103	80 - 120	0.050	0.051	102	0	20
Cadmium	7440-43-9	0.0	0.0050	0.050	0.051	103	80 - 120	0.050	0.051	103	0	20
Calcium	7440-70-2	6.99	0.80	25.0	32.9	104	80 - 120	25.0	33.0	104	0	20
Chromium	7440-47-3	0.00064	0.010	0.050	0.052	103	80 - 120	0.050	0.052	103	0	20
Cobalt	7440-48-4	0.0	0.010	0.050	0.052	104	80 - 120	0.050	0.052	104	0	20
Copper	7440-50-8	0.00085	0.020	0.050	0.053	105	80 - 120	0.050	0.053	105	0	20
Iron	7439-89-6	0.11	0.20	5.00	5.27	103	80 - 120	5.00	5.21	102	1	20
Lead	7439-92-1	0.0	0.015	0.050	0.051	103	80 - 120	0.050	0.051	102	0	20
Magnesium	7439-95-4	1.49	0.20	5.00	6.56	101	80 - 120	5.00	6.56	101	0	20
Manganese	7439-96-5	0.0022	0.015	0.050	0.050	97	80 - 120	0.050	0.050	96	0	20
Molybdenum	7439-98-7	0.000052	0.030	0.050	0.053	107	80 - 120	0.050	0.053	106	0	20
Nickel	7440-02-0	0.0	0.040	0.10	0.10	103	80 - 120	0.10	0.10	103	0	20
Potassium	7440-09-7	1.71	0.50	5.00	6.84	103	80 - 120	5.00	6.86	103	0	20
Selenium	7782-49-2	0.00028	0.040	0.010	0.010	100	80 - 120	0.010	0.010	100	0	20
Silver	7440-22-4	0.0	0.010	0.050	0.052	103	80 - 120	0.050	0.052	103	0	20
Thallium	7440-28-0	0.0	0.020	0.050	0.051	102	80 - 120	0.050	0.051	101	0	20
Vanadium	7440-62-2	0.0024	0.020	0.050	0.054	103	80 - 120	0.050	0.054	103	0	20
Zinc	7440-66-6	0.0056	0.020	1.00	1.00	100	80 - 120	1.00	1.00	99	0	20

Analytical Batch	Client ID	MM-04		MM-04-MS				MM-04-MSD				
600769	GCAL ID	21612090201		21612090202				21612090203				
Prep Batch	Sample Type	SAMPLE		MS				MSD				
600473	Prep Date	12/10/2016 11:00		12/10/2016 11:00				12/10/2016 11:00				
Prep Method	Analysis Date	12/14/2016 17:28		12/14/2016 17:32				12/14/2016 17:36				
EPA 3010A	Matrix	Water		Water				Water				
EPA 6020A		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sodium	7440-23-5	10.4	10.0	5.00	15.2	95	80 - 120	5.00	15.3	97	1	20

Analytical Batch	Client ID	MB600475		LCS600475			
600769	GCAL ID	1636551		1636552			
Prep Batch	Sample Type	MB		LCS			
600475	Prep Date	12/10/2016 11:00		12/10/2016 11:00			
Prep Method	Analysis Date	12/14/2016 19:34		12/14/2016 19:38			
EPA 3010A	Matrix	Water		Water			
EPA 6020A		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R
Aluminum	7429-90-5	ND	0.20	1.00	1.04	104	80 - 120
Antimony	7440-36-0	ND	0.060	0.10	0.10	104	80 - 120
Arsenic	7440-38-2	ND	0.020	0.050	0.051	102	80 - 120
Barium	7440-39-3	ND	0.010	0.050	0.050	100	80 - 120
Beryllium	7440-41-7	ND	0.0040	0.050	0.051	101	80 - 120
Cadmium	7440-43-9	ND	0.0050	0.050	0.052	104	80 - 120
Calcium	7440-70-2	ND	0.80	25.0	26.1	105	80 - 120
Chromium	7440-47-3	ND	0.010	0.050	0.052	105	80 - 120
Cobalt	7440-48-4	ND	0.010	0.050	0.053	106	80 - 120
Copper	7440-50-8	ND	0.020	0.050	0.053	107	80 - 120
Iron	7439-89-6	ND	0.20	5.00	5.24	105	80 - 120
Lead	7439-92-1	ND	0.015	0.050	0.052	103	80 - 120
Magnesium	7439-95-4	ND	0.20	5.00	5.27	105	80 - 120
Manganese	7439-96-5	ND	0.015	0.050	0.048	97	80 - 120
Molybdenum	7439-98-7	ND	0.030	0.050	0.052	104	80 - 120

Inorganics QC Summary

Analytical Batch	Client ID	MB600475		LCS600475			
600769	GCAL ID	1636551		1636552			
Prep Batch	Sample Type	MB		LCS			
600475	Prep Date	12/10/2016 11:00		12/10/2016 11:00			
Prep Method	Analysis Date	12/14/2016 19:34		12/14/2016 19:38			
EPA 3010A	Matrix	Water		Water			
EPA 6020A		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R
Nickel	7440-02-0	ND	0.040	0.10	0.10	105	80 - 120
Potassium	7440-09-7	ND	0.50	5.00	5.21	104	80 - 120
Selenium	7782-49-2	ND	0.040	0.010	0.010	102	80 - 120
Silver	7440-22-4	ND	0.010	0.050	0.051	103	80 - 120
Sodium	7440-23-5	ND	1.00	5.00	5.24	105	80 - 120
Thallium	7440-28-0	ND	0.020	0.050	0.052	103	80 - 120
Vanadium	7440-62-2	ND	0.020	0.050	0.052	105	80 - 120
Zinc	7440-66-6	ND	0.020	1.00	1.00	100	80 - 120

GCAL ANALYTICAL LABORATORIES, LLC
7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

CHAIN OF CUSTODY RECORD

Client ID: 4449 - Tetra Tech
SDG: 216120902
PM: AMK

Report to:
Client: Tetra Tech
Address: 1955 Evergreen Blvd
Duluth, GA 30096
Contact: Chris Jones
Phone: 404-395-5220
E-mail: Chris.Jones@tetratech.com

Bill to:
Client: Tetra Tech
Address: 1955 Evergreen Blvd
Duluth, GA 30096
Contact: Jessica Vickers
Phone: 662-681-5727
E-mail: jessica.vickers@tetratech.com

P.O. Number:
Project Name/Number: GWCC
Sampled By: Carter Owens

Analytical Requests & Method: SVOC (None), PAH (None), TAL Metals (HNO_3)

GCAL use only:
Custody Seal used ☒ yes ☐ no
intact ☒ yes ☐ no
Temperature °C 0.5, 0.7, 0.9, 1.4 (Ex) 2.1, 3.3, 3.6, 2.7 (PM)
☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	SVOC (None)	PAH (None)	TAL Metals (HNO_3)	Preservative
W	12/5/16	1230		X	MM-04	15	6	6	3	MS/MSD 1,2,3
W	12/5/16	1400		X	MM-01	3	X	2	1	4
W	12/5/16	1600		X	MM-02	3	X	2	1	5
W	12/5/16	1655		X	MWC-3C	5	2	2	1	6
W	12/5/16	1730		X	MWC-3B	3	X	2	1	7
W	12/6/16	1300		X	MM-03	5	2	2	1	8
W	12/6/16	1355		X	MWC-1A	3	X	2	1	9
W	12/6/16	1445		X	MWC-1B	3	X	2	1	10
W	12/6/16	1545		X	MWC-1C	5	2	2	1	11
W	12/6/16	1511		X	GWCC-FB	3	X	2	1	12
W	12/6/16	1833		X	GWCC-EQ	3	X	2	1	13
W	12/6/16	1305		X	MM-03-DUP	5	2	2	1	14

AMK 12/9/16

Air Bill No: 7778 8702 4784

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☒ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12/7/16	0900	Hugo Anez	12/07/16	9:00
Hugo Anez	12/7/16		FedEx	12/7/16	
FedEx	12-8-16	10:03	D. McQuire	12-8-16	10:03

Note:

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

SAMPLE RECEIVING CHECKLIST

216120902

SAMPLE DELIVERY GROUP 216120902	
Client PM AMK 4449 - Tetra Tech	**Transport Method** FEDEX
Profile Number 237642	**Received By** McCune, Dodie N.
Line Item(s) 1 - Water	**Receive Date(s)** 12/08/16

CHECKLIST	YES	NO	NA
Samples received with proper thermal and chemical preservation?	☑	☐	☐
Radioactivity is <1600 cmp? If no, record cmp value in notes section.	☑	☐	☐
Custody seals present and intact?	☑	☐	☐
COC relinquished and complete (including sample IDs, collect dates/times, and sampler name)?	☑	☐	☐
Short holds or RUSH samples received?	☐	☑	☐
All containers received in good condition and within hold time?	☑	☐	☐
All sample labels and containers received match the chain of custody?	☑	☐	☐
Preservation checked at receipt? Exceptions: VOC, Coliform, TOC, Oil and Grease, DOC	☑	☐	☐
Preservative added to any containers?	☐	☑	☐
VOC water containers received with headspace < 6mm?	☐	☐	☑
Received filtered sample volume for dissolved analysis?	☐	☐	☑
Trip blank present in all coolers containing VOC waters?	☐	☐	☑
Samples collected in containers provided by GCAL?	☑	☐	☐

COOLERS

Airbill	Thermometer ID: E29	Temp(°C)
777887624784		0.5
		0.7
		0.9
		1.4

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.5

Page 1 of 1

ATTACHMENT B

LABORATORY CERTIFICATION SHEET

(One Page)

December 16, 2016

GCAL, LLC
7979 Innovation Drive
Baton Rouge, LA 70820

Stipulation of Approval for Commercial Laboratories

According to Georgia State Law (O.C.G.A. 12-2-9) Commercial Rules for Commercial Laboratory Accreditation, any person submitting data to EPD prepared by a commercial laboratory shall stipulate the laboratory is approved (Chapter 391-3-26-05). The following information is provided as requested.

Laboratory:	Gulf Coast Analytical Laboratories 7979 Innovation Park Drive Baton Rouge, LA 70820 (225)769-4900
Primary Accrediting Authority:	Louisiana Department of Environmental Quality
Accreditation ID:	01955
Scope:	CWA: Metals, General Chemistry, Volatile Organics, Extractable Organics, Pesticides, Herbicides, PCBs Solid and Chemical Materials: Metals, General Chemistry, Volatile Organics, Extractable Organics, Pesticides, Herbicides, PCBs Biological Tissues: Metals, Volatile Organics, Extractable Organics, Pesticides, Herbicides, PCBs
Effective:	July 1, 2016
Expiration:	June 30, 2017

Any question regarding this stipulation of approval may be directed to GCAL at (225)769-4900. Thank you for your business and do not hesitate to contact me if I can be of further assistance.

Sincerely,

James Turner, Technical Director